

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3557

tcagtgacaa ggaggacgtt tgggcacagc ggcattgcag tgcacacgtg gstatgcatgt  
60  
ccggcattga tcaagtccat ctgggctatg gccataagcc aacaccagtt ctatctggac  
120  
agaaagcaga gtaagtccaa aatccatgca gcacgcagcc tgagtgagat cgccatcgac  
180  
ctgaccgaga cggggacgct gaagacctcg aagctggcca acatgggtag caaggggaag  
240  
atcatcagcg gcagcagcgg cagcctgctg tcttcaggat ctggtgccag gagacactgc  
300  
attctactcc caggttctca ggaatcagat agctcgagc cggccaagaa ggacatgctg  
360  
gctgccttga agtccaggca ggaagctctg gaggaacccc tgcgtcagag gctggaggaa  
420  
ctgaagaagc tgtgtctccg agaagctgag ctcacgggca agctgccagt agaatatccc  
480  
ctggat  
486

&lt;210&gt; 3558

&lt;211&gt; 162

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3558

Ser	Val	Thr	Arg	Arg	Thr	Phe	Gly	His	Ser	Gly	Ile	Ala	Val	His	Thr
1				5					10					15	
Trp	Tyr	Ala	Cys	Pro	Ala	Leu	Ile	Lys	Ser	Ile	Trp	Ala	Met	Ala	Ile
			20					25					30		
Ser	Gln	His	Gln	Phe	Tyr	Leu	Asp	Arg	Lys	Gln	Ser	Lys	Ser	Lys	Ile
		35					40					45			
His	Ala	Ala	Arg	Ser	Leu	Ser	Glu	Ile	Ala	Ile	Asp	Leu	Thr	Glu	Thr
		50				55					60				
Gly	Thr	Leu	Lys	Thr	Ser	Lys	Leu	Ala	Asn	Met	Gly	Ser	Lys	Gly	Lys
65					70				75					80	
Ile	Ile	Ser	Gly	Ser	Ser	Gly	Ser	Leu	Leu	Ser	Ser	Gly	Ser	Gly	Ala
			85					90					95		
Arg	Arg	His	Cys	Ile	Leu	Leu	Pro	Gly	Ser	Gln	Glu	Ser	Asp	Ser	Ser
			100					105					110		
Gln	Ser	Ala	Lys	Lys	Asp	Met	Leu	Ala	Ala	Leu	Lys	Ser	Arg	Gln	Glu
		115					120				125				
Ala	Leu	Glu	Glu	Thr	Leu	Arg	Gln	Arg	Leu	Glu	Glu	Leu	Lys	Lys	Leu
		130				135					140				
Cys	Leu	Arg	Glu	Ala	Glu	Leu	Thr	Gly	Lys	Leu	Pro	Val	Glu	Tyr	Pro
145					150					155					160
Leu	Asp														

&lt;210&gt; 3559

&lt;211&gt; 673

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3559

```

gaaggagcga gcgggggcgc gaggcgttta cctggaggca gcggttggg cgcgcagagc
60
ggccgcggct cccccgacc tgcggccatg gatgaggagc gcgccctcta catcgtccgg
120
gccggcgaag caggggctat cgagcgggtc ctgagggatt acagcgacaa gcatagggct
180
actttcaaat ttgaatcaac agatgaagat aaaagaaaga aactctgtga aggcataattt
240
aaagtcctta taaaggacat cccaacaaca tgtcaagtgt cctgcctgga agtactccgc
300
attctctcca gagacaaaaa ggtttttagtt cctgtgacaa ctaaggaaaa tatgcagata
360
ctgctgcgac tagccaagct aaatgagtta gatgattctt tggagaaagt atcagagttc
420
ccagttattg tggagtcatt aaaatgtctg tgtaatatag tgttcaacag tcagatggca
480
cagcagctca gcctggaact taatcttgct gcaaagctct gtaacctcct gagaaagtgc
540
aaggaccgga aatttatcaa tgacattaag tgctttgact tgcgcttgct cttccttctg
600
tcacttttgc acaccgacat caggtcacaa ttgcgctatg agtccaggg actaccgctg
660
ctaacgcaga tcg
673

```

&lt;210&gt; 3560

&lt;211&gt; 195

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3560

```

Met Asp Glu Glu Arg Ala Leu Tyr Ile Val Arg Ala Gly Glu Ala Gly
 1             5             10             15
Ala Ile Glu Arg Val Leu Arg Asp Tyr Ser Asp Lys His Arg Ala Thr
      20             25             30
Phe Lys Phe Glu Ser Thr Asp Glu Asp Lys Arg Lys Lys Leu Cys Glu
      35             40             45
Gly Ile Phe Lys Val Leu Ile Lys Asp Ile Pro Thr Thr Cys Gln Val
      50             55             60
Ser Cys Leu Glu Val Leu Arg Ile Leu Ser Arg Asp Lys Lys Val Leu
      65             70             75             80
Val Pro Val Thr Thr Lys Glu Asn Met Gln Ile Leu Leu Arg Leu Ala
      85             90             95
Lys Leu Asn Glu Leu Asp Asp Ser Leu Glu Lys Val Ser Glu Phe Pro
      100            105            110
Val Ile Val Glu Ser Leu Lys Cys Leu Cys Asn Ile Val Phe Asn Ser
      115            120            125
Gln Met Ala Gln Gln Leu Ser Leu Glu Leu Asn Leu Ala Ala Lys Leu
      130            135            140
Cys Asn Leu Leu Arg Lys Cys Lys Asp Arg Lys Phe Ile Asn Asp Ile

```



145                      150                      155                      160  
 Lys Cys Phe Asp Leu Arg Leu Leu Phe Leu Leu Ser Leu Leu His Thr  
                                  165                      170                      175  
 Asp Ile Arg Ser Gln Leu Arg Tyr Glu Leu Gln Gly Leu Pro Leu Leu  
                                  180                      185                      190  
 Thr Gln Ile  
                                  195

<210> 3561

<211> 523

<212> DNA

<213> Homo sapiens

<400> 3561

acgcgtgcct gtaggcagac gaggggccag tgggcagagc agacatgaat gccccctgaa  
 60  
 ggctcacaga gctgactcag aagggccatt gtcacacact ggtaagagct gattctgagg  
 120  
 ggagggcatg agacgcctat tgcagagctg ctcaccagaa ggtcacagga atttagaaga  
 180  
 gaagctccta cctgcccccg atcatgcacg tggccactga ggatgccaga cgaggtgatg  
 240  
 ctggtctcat agagaatgta cccgaaggac tgtccatttc cccattgac tggcagggtc  
 300  
 tccatgttga tgggcttttc agacttgatt ggctgcgtac agaagagatg gaggggtggg  
 360  
 caggctcagg aggagtgggg tcacagacag actctgcttg ggggctggca catgggggtg  
 420  
 aagcggaggt ttggtgggtg ttttctactt tgactttctca ttgcactaaa catacaactc  
 480  
 tccaggttga cggggaagag gagtggggca aagggtgtg cac  
 523

<210> 3562

<211> 106

<212> PRT

<213> Homo sapiens

<400> 3562

Met His Val Ala Thr Glu Asp Ala Arg Arg Gly Asp Ala Gly Leu Ile  
 1                      5                      10                      15  
 Glu Asn Val Pro Glu Gly Leu Ser Ile Ser Pro Ile Asp Trp Gln Val  
                                  20                      25                      30  
 Leu His Val Asp Gly Leu Phe Arg Leu Asp Trp Leu Arg Thr Glu Glu  
                                  35                      40                      45  
 Met Glu Gly Trp Ala Gly Ser Gly Gly Val Gly Ser Gln Thr Asp Ser  
                                  50                      55                      60  
 Ala Trp Gly Leu Ala His Gly Val Glu Ala Glu Val Trp Trp Val Phe  
 65                      70                      75                      80  
 Ser Thr Leu Thr Ser His Cys Thr Lys His Thr Thr Leu Gln Gly Asp  
                                  85                      90                      95  
 Gly Glu Glu Glu Trp Gly Lys Gly Val Cys  
                                  100                      105

<210> 3563  
 <211> 359  
 <212> DNA  
 <213> Homo sapiens

<400> 3563  
 nnacgcgtag tcgaactgcc cgcgctcgag cgctctcttg tggtcggtcc ccgtccgggt  
 60  
 cgaagccagg ggcgcgcggc gatgtgagcc atgagcgca cgtggacgct gtcgccggag  
 120  
 cccctgccgc cgtcgacggg gccccagtg ggcgcgggcc tggacgcgga gcagcgcaag  
 180  
 gtgttcgcct tcgtgctctg cctgctcgtg gtgctggtgc tgttgatggt gcgctgcgtg  
 240  
 cgcctcctgc tcgacccta cagccgcatg cccgcctcgt cctggaccga ccacaaggag  
 300  
 gcgctcgagc gcgggcagtt cgactacgc ttggtgtgag ggcgcggcg cccctagg  
 359

<210> 3564  
 <211> 82  
 <212> PRT  
 <213> Homo sapiens

<400> 3564  
 Met Ser Ala Thr Trp Thr Leu Ser Pro Glu Pro Leu Pro Pro Ser Thr  
 1 5 10 15  
 Gly Pro Pro Val Gly Ala Gly Leu Asp Ala Glu Gln Arg Thr Val Phe  
 20 25 30  
 Ala Phe Val Leu Cys Leu Leu Val Val Leu Val Leu Leu Met Val Arg  
 35 40 45  
 Cys Val Arg Ile Leu Leu Asp Pro Tyr Ser Arg Met Pro Ala Ser Ser  
 50 55 60  
 Trp Thr Asp His Lys Glu Ala Leu Glu Arg Gly Gln Phe Asp Tyr Ala  
 65 70 75 80  
 Leu Val

<210> 3565  
 <211> 580  
 <212> DNA  
 <213> Homo sapiens

<400> 3565  
 acgcgtcgtg ggtgggaaaa gggatgccag gacaccagaa gagcaatata aaacagctcc  
 60  
 cgtgagcagg cacaggagac ctcccgccc gccggcggg cgaccccgca ggaagtagga  
 120  
 aggacgagcg cgcacttcaa gtcccagaag ccccgcttc ctggagccc cgccgtgccg  
 180  
 cgctacgccc gccgggagcc gggcagagcg gccaagatgt cgcagcccaa gaaaagaaag  
 240  
 cttgagtcgg ggggcggcgc cgaaggaggg gagggaaactg aagaggaaga tggcgcggag  
 300

cgggaggcgg ccctggagcg accccggacg actaagcggg aacgggacca gctgtactac  
 360  
 gagtgtact cggacgtttc ggtccacgag gagatgatcg cggaccgcgt ccgcaccgat  
 420  
 gcctaccgct gggtttccct tcggaactgg gcagcactgc gaggcaagac ggtactggac  
 480  
 gtgggcgagg gcaccggcat tctgagcatc ttctgtgccc aggccggggc ccggcgcggtg  
 540  
 tacgcggtag aggccagcgc catctggcaa caggcccggg  
 580

<210> 3566

<211> 193

<212> PRT

<213> Homo sapiens

<400> 3566

Thr	Arg	Arg	Gly	Trp	Glu	Lys	Gly	Cys	Gln	Asp	Thr	Arg	Arg	Ala	Ile
1				5					10					15	
Gln	Asn	Ser	Ser	Arg	Glu	Gln	Ala	Gln	Glu	Thr	Phe	Arg	Ala	Ala	Gly
		20					25						30		
Arg	Ala	Thr	Pro	Gln	Glu	Val	Gly	Arg	Thr	Ser	Ala	His	Phe	Lys	Ser
		35				40						45			
Gln	Lys	Pro	Pro	Phe	Pro	Gly	Ala	Arg	Ala-Val	Pro	Arg	Tyr	Ala	Arg	
	50					55				60					
Arg	Glu	Pro	Gly	Arg	Ala	Ala	Lys	Met	Ser	Gln	Pro	Lys	Lys	Arg	Lys
65					70					75				80	
Leu	Glu	Ser	Gly	Gly	Gly	Ala	Glu	Gly	Gly	Glu	Gly	Thr	Glu	Glu	Glu
			85					90					95		
Asp	Gly	Ala	Glu	Arg	Glu	Ala	Ala	Leu	Glu	Arg	Pro	Arg	Thr	Thr	Lys
		100					105					110			
Arg	Glu	Arg	Asp	Gln	Leu	Tyr	Tyr	Glu	Cys	Tyr	Ser	Asp	Val	Ser	Val
		115				120						125			
His	Glu	Glu	Met	Ile	Ala	Asp	Arg	Val	Arg	Thr	Asp	Ala	Tyr	Arg	Trp
	130					135					140				
Val	Ser	Leu	Arg	Asn	Trp	Ala	Ala	Leu	Arg	Gly	Lys	Thr	Val	Leu	Asp
145				150						155				160	
Val	Gly	Ala	Gly	Thr	Gly	Ile	Leu	Ser	Ile	Phe	Cys	Ala	Gln	Ala	Gly
			165					170					175		
Ala	Arg	Arg	Val	Tyr	Ala	Val	Glu	Ala	Ser	Ala	Ile	Trp	Gln	Gln	Ala
			180					185					190		
Arg															

<210> 3567

<211> 2811

<212> DNA

<213> Homo sapiens

<400> 3567

nngaagccga gctcgcgcgc cagcaggaag aagaaacgag gaagcagcaa gaactcgaag  
 60  
 ccttcagaaa gagccagaag gaagctgaac tgaccctgta actggagaaa cagaaggaaa  
 120

ataagcaggt ggaagagatc ctccgtctcg agaaagaaat cgaggacctg cagcgcata  
180  
aggagcagca ggagctgtcg ctgaccgagg cttccctgca gaagctgcag gagcggcggg  
240  
accaggagct ccgcaggctg gaggaggaga tttttgcacc tgaaaaaggc agccatagtt  
300  
ttccagaagc aactcagagg tcagattgct cggagagttt acagacaatt gctggcagag  
360  
aaaagggagc aagaagaaaa gaagaaacag gaagaggaag aaaagaagaa acgggaggaa  
420  
gaagaaagag aaagagagag agagcgaaga gaagccgagc tccgcgcca gcaggaagaa  
480  
gaaacgagga agcagcaaga actcgaagcc ttgcagaaga gccagaagga agctgaactg  
540  
accctgaac tggagaaaca gaaggaaaat aagcaggtgg aagagatcct ccgtctggag  
600  
aaagaaatcg aggacctgca gcgcataag gagcagcagg agctgtcgtc gaccgaggct  
660  
tcctgcaga agctgcagga gcggcgggac caggagctcc gcaggctgga ggaggaagcg  
720  
tgcaggcggc cccaggagtt cctcagctcc ctcaatttcg acgagatcga cgagtgtgtc  
780  
cggaatatcg agcggtcctt gtcgggggga agcgaatttt ccagcagct ggctgagagc  
840  
gcatgcagg agaagcccaa cttcaacttc agccagccct acccagagga ggaggtcgat  
900  
gagggtctcg aagccgacga cgacgccttc aaggactccc ccaaccccag cgagcacggc  
960  
cactcagacc agcgaacaag tggcatccgg accagcgatg actcttcaga ggaggacca  
1020  
tacatgaacg acacggtggt gcccaccagc cccagtgcgg acagcacggt gctgctcgcc  
1080  
ccatcagtgc aggactccgg gagcctacac aactcctcca gcggcgagtc cacctactgc  
1140  
atgccccaga acgctgggga cttgccctcc ccagacggcg actacgacta cgaccaggat  
1200  
gactatgagg acggtgccat cacttcgggc agcagcgtga cttctccaa ctctacggc  
1260  
agccagtggc cccccgacta ccgctgctct gtggggacct acaacagctc ggggtgcctac  
1320  
cggttcagct ctgagggggc gcagtcctcg tttgaagata gtgaagagga ctttgattcc  
1380  
aggtttgata cagatgatga gctttcatac cggcgtgact ctgtgtacag ctgtgtcact  
1440  
ctgccgtatt tccacagctt tctgtacatg aaaggtggcc tgatgaactc ttggaaacgc  
1500  
cgctggtgcg tcctcaagga tgaaaccttc ttgtggttcc gctccaagca ggaggccctc  
1560  
aagcaaggct ggctccacaa aaaagggggg ggctcctcca cgctgtccag gagaaattgg  
1620  
aagaagcgct ggtttgctct ccgccagtcc aagctgatgt actttgaaaa cgacagcgag  
1680  
gagaagctca agggcaccgt agaagtgcga acggcaaaag agatcataga taacaccaac  
1740

aaggagaatg ggatcgacat cattatggcc gataggactt tccacctgat tgcagagtc  
1800  
ccagaagatg ccagccagtg gttcagcgtg ctgagtcagg tccacgcgtc cacggaccag  
1860  
gagatccagg agatgcatga tgagcaggca aaccacaga atgctgtggg caccttggat  
1920  
gtggggctga ttgattctgt gtgtgcctct gacagccctg atagacccaa ctcgtttgtg  
1980  
atcatcacgg ccaaccgggt gctgcactgc aacgccgaca cgccggagga gatgcaccac  
2040  
tggataaacc tgctgcagag gtccaaaggg gacaccagag tggagggccca ggaattcatc  
2100  
gtgagaggat ggttgcacaa agaggtgaag aacagtccaa agatgtcttc actgaaactg  
2160  
aagaaacggt ggtttgtact caccacaat tccctggatt actacaagag ttcagagaag  
2220  
aacgcgtca aactggggac cctggctctc aacagcctct gctctgtcgt cccccagat  
2280  
gagaagatat tcaaagagac aggctactgg aacgtcaccg tgtacgggag caagcactgt  
2340  
taccggctct acaccaagct gctcaacgag gccaccgggt ggtccagtgt cagtcaaaac  
2400  
gtgactgaca ccaaggcccc gatcgacacc cccaccagc agctgattca agatatcaag  
2460  
gagaactgcc tgaactcgga tgtggtggaa cagatttaca agcggaaacc gatccttcga  
2520  
tacaccatc accccttgca ctccccactc ctgccccttc cgtatgggga cataaatctc  
2580  
aacttgetca aagacaaagg ctataccacc cttcaggatg aggccatcaa gatattcaat  
2640  
tcctgcagc aactggagtc catgtctgac ccaattccaa taatccaggg catcctacag  
2700  
acagggcatg acctgcgacc tctgctggac gagctgtact gccagcttat caaacagacc  
2760  
aacaaagtgc cccaccccg cagtgtgggc aacctgtaca gctggcagat c  
2811

<210> 3568

<211> 869

<212> PRT

<213> Homo sapiens

<400> 3568

Pro	Arg	Leu	Pro	Cys	Arg	Ser	Cys	Arg	Ser	Gly	Gly	Thr	Arg	Ser	Ser
1				5				10						15	
Ala	Gly	Trp	Arg	Arg	Phe	Leu	His	Leu	Lys	Lys	Ala	Ala	Ile	Val	
			20				25					30			
Phe	Gln	Lys	Gln	Leu	Arg	Gly	Gln	Ile	Ala	Arg	Arg	Val	Tyr	Arg	Gln
		35					40					45			
Leu	Leu	Ala	Glu	Lys	Arg	Glu	Gln	Glu	Glu	Lys	Lys	Lys	Gln	Glu	Glu
		50					55				60				
Glu	Glu	Lys	Lys	Lys	Arg	Glu	Glu	Glu	Glu	Arg	Glu	Arg	Glu	Arg	Glu
65					70				75				80		
Arg	Arg	Glu	Ala	Glu	Leu	Arg	Ala	Gln	Gln	Glu	Glu	Glu	Thr	Arg	Lys

2726

515 520 525  
 Ile Ala Glu Ser Pro Glu Asp Ala Ser Gln Trp Phe Ser Val Leu Ser  
 530 535 540  
 Gln Val His Ala Ser Thr Asp Gln Glu Ile Gln Glu Met His Asp Glu  
 545 550 555 560  
 Gln Ala Asn Pro Gln Asn Ala Val Gly Thr Leu Asp Val Gly Leu Ile  
 565 570 575  
 Asp Ser Val Cys Ala Ser Asp Ser Pro Asp Arg Pro Asn Ser Phe Val  
 580 585 590  
 Ile Ile Thr Ala Asn Arg Val Leu His Cys Asn Ala Asp Thr Pro Glu  
 595 600 605  
 Glu Met His His Trp Ile Thr Leu Leu Gln Arg Ser Lys Gly Asp Thr  
 610 615 620  
 Arg Val Glu Gly Gln Glu Phe Ile Val Arg Gly Trp Leu His Lys Glu  
 625 630 635 640  
 Val Lys Asn Ser Pro Lys Met Ser Ser Leu Lys Leu Lys Lys Arg Trp  
 645 650 655  
 Phe Val Leu Thr His Asn Ser Leu Asp Tyr Tyr Lys Ser Ser Glu Lys  
 660 665 670  
 Asn Ala Leu Lys Leu Gly Thr Leu Val Leu Asn Ser Leu Cys Ser Val  
 675 680 685  
 Val Pro Pro Asp Glu Lys Ile Phe Lys Glu Thr Gly Tyr Trp Asn Val  
 690 695 700  
 Thr Val Tyr Gly Arg Lys His Cys Tyr Arg Leu Tyr Thr Lys Leu Leu  
 705 710 715 720  
 Asn Glu Ala Thr Arg Trp Ser Ser Val Ser Gln Asn Val Thr Asp Thr  
 725 730 735  
 Lys Ala Pro Ile Asp Thr Pro Thr Gln Gln Leu Ile Gln Asp Ile Lys  
 740 745 750  
 Glu Asn Cys Leu Asn Ser Asp Val Val Glu Gln Ile Tyr Lys Arg Asn  
 755 760 765  
 Pro Ile Leu Arg Tyr Thr His His Pro Leu His Ser Pro Leu Leu Pro  
 770 775 780  
 Leu Pro Tyr Gly Asp Ile Asn Leu Asn Leu Leu Lys Asp Lys Gly Tyr  
 785 790 795 800  
 Thr Thr Leu Gln Asp Glu Ala Ile Lys Ile Phe Asn Ser Leu Gln Gln  
 805 810 815  
 Leu Glu Ser Met Ser Asp Pro Ile Pro Ile Ile Gln Gly Ile Leu Gln  
 820 825 830  
 Thr Gly His Asp Leu Arg Pro Leu Arg Asp Glu Leu Tyr Cys Gln Leu  
 835 840 845  
 Ile Lys Gln Thr Asn Lys Val Pro His Pro Gly Ser Val Gly Asn Leu  
 850 855 860  
 Tyr Ser Trp Gln Ile  
 865

&lt;210&gt; 3569

&lt;211&gt; 5070

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3569

tctgaatccc cccccagcac cctcaatgcc cagatgctga atggaatgat caaacaggag

60

cctgggaccg tgacagccct gcctctgcac cccactcgag ccccatcgcc accctggcct  
120  
ccccagggtc cgctctcccc gggccctggg tccttgccctc tcagcattgc ccgtgtccag  
180  
acaccgcctt ggcacccgcc aggtgcccc tccccaggcc tcctgcagga cagtgcacag  
240  
ctcagtggct cctacctgga cccaactac cagtccatca agtggcagcc tcatcagcag  
300  
aacaagtggg cgaccctgta cgatgctaac tacaaggagc tgcccatgct cacctaccgc  
360  
gtggatgcgg acaagggtt caacttttcg gtgggagcag acgcctttgt gtgccagaag  
420  
aagaaccact tccaggtgac agtgtacatc ggcagtctgg gcgagcccaa gtacgtcaag  
480  
acgcccagg gctcaagcc cctcgactgc ttctatctga agctgcacgg agtgaagctg  
540  
gaggccctga accagtccat taacatcgag cagtcccagt cagaccggag caagcggccc  
600  
ttcaaccgg tcacgggtcaa tctgccccct gagcaggtca cgaaggtagc tgtggggcgg  
660  
ctgcatttca gcgagaccac cgctaacaac atgcgtaaga agggcaagcc caaccggac  
720  
cagaggtact tcatgctggt ggtggccctc caggctcatg cacagaacca gaactacag  
780  
ctggccgccc agatctcaga gcgcattcatt gtgcgggcct ccaaccagg ccagttcgag  
840  
agcgacagcg atgtgttgtg gcagcgggca cagggtgccc acaccgtctt ccaccacggc  
900  
cgcgtgggca tcaacacaga ccggccggat gaggcgctgg ttgtgcacgg gaatgtcaag  
960  
gtcatgggct cgcttatgca cccctccgac ctgcgcgcca aggaacacgt gcaggaggtg  
1020  
gacaccaccg agcaattgaa gaggatctcg cgcattgcgc tggtagcacta cagatacaag  
1080  
cccaggttcg ccgccagcgc gggcatcgag gccaccgcgc cagagacagg tgtcatcgct  
1140  
caggaggtga aggagatctt gcctgaggct gtgaaagaca ccggagacat ggtctttgcc  
1200  
aatgggaaaa ccatagagaa cttcctgggtg gtgaacaagg agcgcatctt catggagaac  
1260  
gtaggggccc tgaaggagct gtgcaagctg acagacaacc tggagacgcg cattgatgag  
1320  
ctggagcgct ggagccacaa gctggccaag ctgcggcggc tcgacagcct caagtccacc  
1380  
ggcagctcgg gcgccttcag ccatgcaggg agccagttca gtcgggaggg cagcgtcccc  
1440  
cacaagaaga ggcccccaa ggtggccagc aagtcacgt ccgtgggtcc ggaccaggcc  
1500  
tgcacagcc agcgcttctt gcagggaacc atcattgccc tggtaggtgt catggccttc  
1560  
agcgtggtgt ccatgtccac actgtacgtg ctgagcctgc gcacagagga ggacctggt  
1620  
gacactgatg gctcttttgc cgtgtccaact tcctgtctcc tggccctgct ccggccccag  
1680



ccccctgggg ggagtgaggc cttgtgcccc tgggccagcc agagctttgg gaccacgcag  
1740  
ctccgacagt ccccttgac cacggggcta ccaggcatac agccctcttt gctgctggtg  
1800  
accaccagcc tcaccagctc ggccccaggt tctgctgtcc gcaccttgga catgtgttcc  
1860  
agccacccct gccctgtcat ctgctgttcc tcaccacta ccaaccctac cactggctct  
1920  
agtcttggcc ccagctttaa ccctggccat gttctcagcc caagtcccag cccagcacc  
1980  
aaccgctcag gccccagcca gatggccctt ctgccagtca ccaacatcag agccaagtcc  
2040  
tggggtcttt cagtcaatgg cattgaccac tccaagcatc acaagagtct ggagcctctg  
2100  
gccagccctg cagtccctt ccctgggggg cagggcaaag ccaagaacag tcccagcctt  
2160  
ggtttccatg gccgggcccg ccgaggggccc ctccagtcca gcgtgggccc tgctgagccc  
2220  
acctgggccc agggccagtc agcctctctc cttgcagagc cagtgccctc cctgacctcc  
2280  
atccaggtgc tggagaatc gatgtccatc acctccagt actgtgctcc aggggatgccc  
2340  
tgcaggcctg ggaacttcac ctaccacatc cctgtcagca gtggcacccc actgcacctc  
2400  
agcctgactc tgcagatgaa ctctcctcc cccgtgtctg tgggtgctgtg cagcctgagg  
2460  
tcaaaggagg aaccatgtga ggaggggagc cttccacaga gtctccacac ccaccaggac  
2520  
accagggca cctctaccg gtggccaata accatcctgt ccttccgtga attcacctac  
2580  
cacttccggg tggcactgct gggtcaggcc aactgcagtt cagaggctct cgcccagcca  
2640  
gccacagact accacttcca cttctaccgc ctgtgtgact gagctgccct cctgaggcag  
2700  
caccacacca gggaccaggg gtgcccaggc accccccaac actggatgca atggtgttac  
2760  
actggagccc gctgcaggcc agctctgctg ttcactggcc ctacccgaga ctggtgaaac  
2820  
tggaagtctt cacactggag ttgctgttcc agctggtcgc ccctcacggc acagagggaa  
2880  
cctgagagcc agagacttct tgggccttcc tgccctgccac cccctagggg ccaggacagg  
2940  
accagtttac ctctttccag atatggtggt tggagggctg gttcagggtc cctggaggga  
3000  
aggggaagcc tgtggccctg atttgttcag agccattct cccttgctc cccttttgag  
3060  
actggagcca acccttttg agagaggacc tgcccacctt tgagatcagc agggggctcg  
3120  
gatccagccc taagagactt ggggtggaccc ccatgagtca atggagggca gacggctctc  
3180  
ccctttaaag ctgttccctg ggggatggct tggtagtga ctttctgggg tttgcctgtt  
3240  
acgccagact cggacttcta agctttaagt gtggcccagg aggtttcttc tccctgggag  
3300

ggcttggctc ccaagaagtc ccagggcagc cgaggccagc cctgcctggg ttggagaaac  
3360  
tgactttgtg ccttaagtct actcagtgcc tggatgaagcc accctcagcc cttcacaggc  
3420  
ctgaaccagt aggggccagt gggccaggta agccctagag ccttgaacca ggaatatcca  
3480  
ggaagaggaa attccctttg agccccaga tggatattgca gcttcactgc ctgcgttcct  
3540  
gggagcgtct ggagctcaca gtgatcagt accacatcat tctctctgag cagaggagca  
3600  
ggaatccctc aagcagcagc ctggctcttg ctgggtggga gatgcaaata gcttttgctg  
3660  
ttattaatga agtaattact aaatgcactt aaaccagggc aggaaggaaat ggaaggatgg  
3720  
agctagaaag ctacagagtgg gccagagcag ggggtgtgaca cttgcaaaga cagggtctg  
3780  
actctgatcc ctcccaggga gcctccgaca cccatccac tcccaaccac caagaccctg  
3840  
ggttagggaa gaagttgtat cttaagtgcc acctcaagt ttcttagtgg tgcctggtgc  
3900  
attccgaggc tacatccagg ctcatggaag gagtgtagta ttcatttagc catgtctgcc  
3960  
atgggtccag aaatgggaaa ggaattgct gtccttgccc tgtggtatgc tgccacctct  
4020  
ttgggaagca ggccttgccc ctgtcccacc actcattctc agctttgaat gggaggcctt  
4080  
tctatagtgg aggcctttcc ttgaagccta tgaactgcag gccccctttt gccattgatc  
4140  
tcaaagcact tgtcctcagg ataggggaaga gcagggggat gcaggaatag cagggatagc  
4200  
ttgtcccgag ccccccccc aatttggttc cgttgacata ggaattttac gattcccaaa  
4260  
ccatgcaggg gctgagcctt ccttatgatg actttgttct cctccact gggggaatcc  
4320  
tccctatgcc taaaactgc cgagccccac tccatgtaat aggattcctg ggcttctca  
4380  
atgttcttgg actgcgggcc ctacgtcctt aactggaaag tgaccgtcca 4440  
ctgccccatg gagcccatct ggacacagca cagccccaaa accgttagca gctggctctg  
4500  
tttccaagcc tggggagggg ttccctcagt caggagtgg ggacaggctg gggatccaag  
4560  
ctgcttgagg ggtcaaactc tggaccaaag ttgccttaag cctgtggtaa aagggttca  
4620  
gggaaggtaa gtgggccacc tgcgtggaag tgccagctgc ccggtggca atgggtgtgag  
4680  
tgtcttggcc ctgtccctgc cctgggttcc agcaggtcat cctcccttc ttctctctcc  
4740  
tttggcggtt gtccctgtag tcaactgggt aatctcccc tagcttcaag ctgtacatag  
4800  
ggcctccag tgcaaatcct cctgccata ccgtgcaccc ttagaagcct gcgtgtgcat  
4860  
agagcgcccc ctacttccca gttaactccc agttcttctc cctgagcttg gtatttgc  
4920  
tgtgccaact ctgactctga ggtgggcagt gaggggaagca gcccgggccc tgcttgcttc  
4980

ctgtccccga aatgttcggt tcttctgaag taaatataca tatataaata aatgtataaa  
 5040  
 tactgctttg tatctgaaaa aaaaaaaaaa  
 5070

<210> 3570

<211> 893

<212> PRT

<213> Homo sapiens

<400> 3570

Ser	Glu	Ser	Pro	Pro	Ser	Thr	Leu	Asn	Ala	Gln	Met	Leu	Asn	Gly	Met
1				5					10					15	
Ile	Lys	Gln	Glu	Pro	Gly	Thr	Val	Thr	Ala	Leu	Pro	Leu	His	Pro	Thr
		20					25						30		
Arg	Ala	Pro	Ser	Pro	Pro	Trp	Pro	Pro	Gln	Gly	Pro	Leu	Ser	Pro	Gly
		35				40						45			
Pro	Gly	Ser	Leu	Pro	Leu	Ser	Ile	Ala	Arg	Val	Gln	Thr	Pro	Pro	Trp
	50					55					60				
His	Pro	Pro	Gly	Ala	Pro	Ser	Pro	Gly	Leu	Leu	Gln	Asp	Ser	Asp	Ser
65					70					75				80	
Leu	Ser	Gly	Ser	Tyr	Leu	Asp	Pro	Asn	Tyr	Gln	Ser	Ile	Lys	Trp	Gln
				85					90					95	
Pro	His	Gln	Gln	Asn	Lys	Trp	Ala	Thr	Leu	Tyr	Asp	Ala	Asn	Tyr	Lys
		100					105						110		
Glu	Leu	Pro	Met	Leu	Thr	Tyr	Arg	Val	Asp	Ala	Asp	Lys	Gly	Phe	Asn
		115					120					125			
Phe	Ser	Val	Gly	Asp	Asp	Ala	Phe	Val	Cys	Gln	Lys	Lys	Asn	His	Phe
	130					135					140				
Gln	Val	Thr	Val	Tyr	Ile	Gly	Met	Leu	Gly	Glu	Pro	Lys	Tyr	Val	Lys
145					150					155				160	
Thr	Pro	Glu	Gly	Leu	Lys	Pro	Leu	Asp	Cys	Phe	Tyr	Leu	Lys	Leu	His
				165					170					175	
Gly	Val	Lys	Leu	Glu	Ala	Leu	Asn	Gln	Ser	Ile	Asn	Ile	Glu	Gln	Ser
		180					185						190		
Gln	Ser	Asp	Arg	Ser	Lys	Arg	Pro	Phe	Asn	Pro	Val	Thr	Val	Asn	Leu
	195					200						205			
Pro	Pro	Glu	Gln	Val	Thr	Lys	Val	Thr	Val	Gly	Arg	Leu	His	Phe	Ser
	210					215					220				
Glu	Thr	Thr	Ala	Asn	Asn	Met	Arg	Lys	Lys	Gly	Lys	Pro	Asn	Pro	Asp
225				230						235				240	
Gln	Arg	Tyr	Phe	Met	Leu	Val	Val	Ala	Leu	Gln	Ala	His	Ala	Gln	Asn
				245					250					255	
Gln	Asn	Tyr	Thr	Leu	Ala	Ala	Gln	Ile	Ser	Glu	Arg	Ile	Ile	Val	Arg
		260					265						270		
Ala	Ser	Asn	Pro	Gly	Gln	Phe	Glu	Ser	Asp	Ser	Asp	Val	Leu	Trp	Gln
		275					280					285			
Arg	Ala	Gln	Val	Pro	Asp	Thr	Val	Phe	His	His	Gly	Arg	Val	Gly	Ile
	290					295					300				
Asn	Thr	Asp	Arg	Pro	Asp	Glu	Ala	Leu	Val	Val	His	Gly	Asn	Val	Lys
305					310					315				320	
Val	Met	Gly	Ser	Leu	Met	His	Pro	Ser	Asp	Leu	Arg	Ala	Lys	Glu	His
				325					330					335	
Val	Gln	Glu	Val	Asp	Thr	Thr	Glu	Gln	Leu	Lys	Arg	Ile	Ser	Arg	Met

```

      340      345      350
Arg Leu Val His Tyr Arg Tyr Lys Pro Glu Phe Ala Ala Ser Ala Gly
      355      360      365
Ile Glu Ala Thr Ala Pro Glu Thr Gly Val Ile Ala Gln Glu Val Lys
      370      375      380
Glu Ile Leu Pro Glu Ala Val Lys Asp Thr Gly Asp Met Val Phe Ala
385      390      395      400
Asn Gly Lys Thr Ile Glu Asn Phe Leu Val Val Asn Lys Glu Arg Ile
      405      410      415
Phe Met Glu Asn Val Gly Ala Val Lys Glu Leu Cys Lys Leu Thr Asp
      420      425      430
Asn Leu Glu Thr Arg Ile Asp Glu Leu Glu Arg Trp Ser His Lys Leu
      435      440      445
Ala Lys Leu Arg Arg Leu Asp Ser Leu Lys Ser Thr Gly Ser Ser Gly
      450      455      460
Ala Phe Ser His Ala Gly Ser Gln Phe Ser Arg Ala Gly Ser Val Pro
465      470      475      480
His Lys Lys Arg Pro Pro Lys Val Ala Ser Lys Ser Ser Ser Val Val
      485      490      495
Pro Asp Gln Ala Cys Ile Ser Gln Arg Phe Leu Gln Gly Thr Ile Ile
      500      505      510
Ala Leu Val Val Val Met Ala Phe Ser Val Val Ser Met Ser Thr Leu
      515      520      525
Tyr Val Leu Ser Leu Arg Thr Glu Glu Asp Leu Val Asp Thr Asp Gly
      530      535      540
Ser Phe Ala Val Ser Thr Ser Cys Leu Leu Ala Leu Leu Arg Pro Gln
545      550      555      560
Pro Pro Gly Gly Ser Glu Ala Leu Cys Pro Trp Ser Ser Gln Ser Phe
      565      570      575
Gly Thr Thr Gln Leu Arg Gln Ser Pro Leu Thr Thr Gly Leu Pro Gly
      580      585      590
Ile Gln Pro Ser Leu Leu Leu Val Thr Thr Ser Leu Thr Ser Ser Ala
      595      600      605
Pro Gly Ser Ala Val Arg Thr Leu Asp Met Cys Ser Ser His Pro Cys
      610      615      620
Pro Val Ile Cys Cys Ser Ser Pro Thr Thr Asn Pro Thr Thr Gly Pro
625      630      635      640
Ser Leu Gly Pro Ser Phe Asn Pro Gly His Val Leu Ser Pro Ser Pro
      645      650      655
Ser Pro Ser Thr Asn Arg Ser Gly Pro Ser Gln Met Ala Leu Leu Pro
      660      665      670
Val Thr Asn Ile Arg Ala Lys Ser Trp Gly Leu Ser Val Asn Gly Ile
      675      680      685
Asp His Ser Lys His His Lys Ser Leu Glu Pro Leu Ala Ser Pro Ala
      690      695      700
Val Pro Phe Pro Gly Gly Gln Gly Lys Ala Lys Asn Ser Pro Ser Leu
705      710      715      720
Gly Phe His Gly Arg Ala Arg Arg Gly Ala Leu Gln Ser Ser Val Gly
      725      730      735
Pro Ala Glu Pro Thr Trp Ala Gln Gly Gln Ser Ala Ser Leu Leu Ala
      740      745      750
Glu Pro Val Pro Ser Leu Thr Ser Ile Gln Val Leu Glu Asn Ser Met
      755      760      765
Ser Ile Thr Ser Gln Tyr Cys Ala Pro Gly Asp Ala Cys Arg Pro Gly

```

```

      770              775              780
Asn Phe Thr Tyr His Ile Pro Val Ser Ser Gly Thr Pro Leu His Leu
785              790              795              800
Ser Leu Thr Leu Gln Met Asn Ser Ser Ser Pro Val Ser Val Val Leu
      805              810              815
Cys Ser Leu Arg Ser Lys Glu Glu Pro Cys Glu Glu Gly Ser Leu Pro
      820              825              830
Gln Ser Leu His Thr His Gln Asp Thr Gln Gly Thr Ser His Arg Trp
      835              840              845
Pro Ile Thr Ile Leu Ser Phe Arg Glu Phe Thr Tyr His Phe Arg Val
      850              855              860
Ala Leu Leu Gly Gln Ala Asn Cys Ser Ser Glu Ala Leu Ala Gln Pro
865              870              875              880
Ala Thr Asp Tyr His Phe His Phe Tyr Arg Leu Cys Asp
      885              890

```

&lt;210&gt; 3571

&lt;211&gt; 528

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3571

```

acgcgtcccc tgtccggctt ggtatgggtc gcgctgctag cgctaggcca cgccttcctg
60
ttcacccgggg gcgtgggtgag cgcctgggac caggtgtcct attttctctt cgtcatcttc
120
acggcgtatg ccatgctgcc cttgggcatg cgggacgccg ccgtcgcggg cctcgcctcc
180
tcaactctgc atctgctggt cctcgggctg tatcttgggc cacagccgga ctcacggcct
240
gcactgctgc cgcaggtgag cagcaagta gcacaggctg cgctcaggac ggctctgcc
300
cgtgctagta ggctcctttt aggggggttg tgagctgtga ctccaaggca aggtgcaacg
360
ctggggcgag gatacccaac cgtgctttcg cagagctggt acaacagtgt gatgcaatgc
420
ctgctgttac cagaagaggg atccaggcca cacggaaggg agtcgtgtcg tggtttaccc
480
cggggacaac agatgtggtt aatgaaacct tgacagagaa tgaaaaaa
528

```

&lt;210&gt; 3572

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3572

```

Thr Arg Pro Leu Ser Gly Leu Val Trp Val Ala Leu Leu Ala Leu Gly
1              5              10              15
His Ala Phe Leu Phe Thr Gly Gly Val Val Ser Ala Trp Asp Gln Val
20              25              30
Ser Tyr Phe Leu Phe Val Ile Phe Thr Ala Tyr Ala Met Leu Pro Leu
35              40              45
Gly Met Arg Asp Ala Ala Val Ala Gly Leu Ala Ser Ser Leu Ser His

```

```
<210> 3573
<211> 1236
<212> DNA
<213> Homo sapiens
```

2734

tctttgagag tttaactctn gccccgcct cttggg  
1236

<210> 3574

<211> 361

<212> PRT

<213> Homo sapiens

<400> 3574

Pro	Gln	Ile	Lys	Gly	Ala	Val	Ser	Phe	Phe	Pro	Ala	Thr	Ser	Gly	Gln
1				5					10					15	
Asp	His	Pro	Pro	Cys	Leu	Leu	Pro	Lys	Ala	Gln	Pro	Ser	Ala	Pro	Pro
			20					25					30		
Ile	Asn	Pro	Ser	His	Thr	His	Ser	Pro	Ile	Phe	Ser	Ile	His	Ser	Gly
			35				40					45			
Thr	Cys	Val	Phe	Asn	Lys	Pro	Gly	Gly	His	Thr	Ala	Ser	His	Thr	His
	50					55					60				
Thr	Leu	Thr	Ala	Thr	Asn	Pro	Arg	Ser	His	Ala	His	Ala	Asp	Ala	Pro
65					70					75				80	
Cys	Gly	Thr	Cys	Thr	His	Asn	His	Thr	Cys	Val	Gln	Ser	Gly	Arg	His
				85					90					95	
Thr	His	Thr	Cys	Ile	Glu	Ala	Ser	Leu	Trp	Thr	Pro	Ser	Ala	Ser	His
			100					105					110		
Arg	Gly	Gly	Ser	Pro	Ala	Val	Phe	Asp	Trp	Phe	Phe	Glu	Ala	Ala	Cys
			115					120				125			
Pro	Ala	Ser	Val	Gln	Glu	Asp	Pro	Pro	Ile	Leu	Arg	Gln	Phe	Pro	Pro
	130					135					140				
Asp	Phe	Arg	Asp	Gln	Glu	Ala	Met	Gln	Met	Val	Pro	Lys	Phe	Cys	Phe
145					150					155				160	
Pro	Phe	Asp	Val	Glu	Arg	Gly	Pro	Pro	Ser	Pro	Ala	Val	Gln	His	Phe
				165					170					175	
Thr	Phe	Ala	Leu	Thr	Asp	Leu	Ala	Gly	Asn	Arg	Arg	Phe	Gly	Phe	Cys
			180					185					190		
Arg	Leu	Arg	Ala	Gly	Thr	Gln	Ser	Cys	Leu	Cys	Ile	Leu	Ser	His	Leu
		195					200					205			
Pro	Trp	Phe	Glu	Val	Phe	Tyr	Lys	Leu	Leu	Asn	Thr	Val	Gly	Asp	Leu
	210					215					220				
Leu	Ala	Gln	Asp	Gln	Val	Thr	Glu	Ala	Glu	Glu	Leu	Leu	Gln	Asn	Leu
225				230						235				240	
Phe	Gln	Gln	Ser	Leu	Ser	Gly	Pro	Gln	Ala	Ser	Val	Gly	Leu	Glu	Leu
				245					250					255	
Gly	Ser	Gly	Val	Thr	Val	Ser	Ser	Gly	Gln	Gly	Ile	Pro	Pro	Pro	Thr
			260					265					270		
Arg	Gly	Asn	Ser	Lys	Pro	Leu	Ser	Cys	Phe	Val	Ala	Pro	Asp	Ser	Gly
		275					280					285			
Arg	Leu	Pro	Ser	Ile	Pro	Glu	Asn	Arg	Asn	Leu	Thr	Glu	Leu	Val	Val
	290					295					300				
Ala	Val	Thr	Asp	Glu	Asn	Ile	Val	Gly	Leu	Phe	Ala	Ala	Leu	Leu	Ala
305					310					315				320	
Glu	Arg	Arg	Val	Leu	Leu	Thr	Ala	Ser	Lys	Leu	Ser	Thr	Leu	Arg	Arg
				325					330					335	
Gly	Pro	Pro	Gly	Arg	Gly	Gly	Ser	Arg	Ala	Trp	Leu	Arg	Pro	Gly	Gly
			340					345					350		
Arg	Asp	Lys	Gly	Ala	Asp	Ser	Leu	Leu							

355

360

&lt;210&gt; 3575

&lt;211&gt; 769

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3575

tgatcagctc ctgtcggagt tcatcggcca tgaagaagga aggtgcgttt gctttcgggt  
 60  
 gcatataagc aacgtgaggt gcagttggag gataaatatg atagtttgga aacaccattc  
 120  
 cagtcaaagg tgctggagtt gtgtctgtat agaagtaagt cgtcccacca acagtttcct  
 180  
 tttggatcac ctgaccagaa gacggagtct gagaaacagg attattaaca gatgtagagg  
 240  
 cactagaagg caccatgtaa cttgctggat ttggagtgtg acttcttctt ctgggagcag  
 300  
 gagaagtatg tggagtaatc ttgggggaat gaagagggga agaccagca gacaacgaca  
 360  
 ttctgaaga ggatgtaaaa atgtttctta atggagcaat aattggtttt agagaacaag  
 420  
 tctggaaaat aaaatgcaaa cattcatttg gaagaaacat catctttggg atcgttaagt  
 480  
 caaagatgaa ggaaataatt ttatcttgtt ttgttgtaga aaaagctctg attaaagcaa  
 540  
 atgtaaagtt tcttttttca aatgtactta ttccaaata tgtagcaga tttactgcaa  
 600  
 gaatagtctc ctccatatca aggtttacat caggaaattt aatagcaaga gtgacaaaaa  
 660  
 atttaataaa ttaatggaag agtgggaagt aacagaattg tggctcttta taaaattatg  
 720  
 ccttttataa aagtttttct tttataaaag gcataattcc ttttttatt  
 769

&lt;210&gt; 3576

&lt;211&gt; 205

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3576

Met	Glu	Glu	Thr	Ile	Leu	Ala	Val	Asn	Leu	Leu	Thr	Tyr	Leu	Glu	Ile
1				5				10					15		
Ser	Thr	Phe	Glu	Lys	Arg	Asn	Phe	Thr	Phe	Ala	Leu	Ile	Arg	Ala	Phe
			20					25					30		
Ser	Thr	Thr	Lys	Gln	Asp	Lys	Ile	Ile	Ser	Phe	Ile	Phe	Ala	Leu	Thr
			35				40					45			
Ile	Pro	Lys	Met	Met	Phe	Leu	Pro	Asn	Glu	Cys	Leu	His	Phe	Ile	Phe
			50			55				60					
Gln	Thr	Cys	Ser	Leu	Lys	Pro	Ile	Ile	Ala	Pro	Leu	Arg	Asn	Ile	Phe
			65			70				75				80	
Thr	Ser	Ser	Ser	Gly	Met	Ser	Leu	Ser	Ala	Gly	Ser	Ser	Pro	Leu	His
				85				90						95	
Ser	Pro	Lys	Ile	Thr	Pro	His	Thr	Ser	Pro	Ala	Pro	Arg	Arg	Arg	Ser



```
<210> 3577
<211> 1225
<212> DNA
<213> Homo sapiens
```

2737

agtgctaagc tacttgtttt ctcacttgag cccgggtagg ctgtgttggc ctcacttgg  
 1080  
 gattctcagc agttacatga aagttgtgct gataatctct tctcttgtag caatttttagt  
 1140  
 caggcagaaa atggtaaaca tgagggtgct cttgtgactt aatttttggt caagggacta  
 1200  
 agttgcttat gtttattccc tgtca  
 1225

<210> 3578

<211> 195

<212> PRT

<213> Homo sapiens

<400> 3578

Val	Asp	Ser	Ile	Arg	Arg	Gln	Phe	Glu	Phe	Ser	Val	Asp	Ser	Phe	Gln
1				5				10						15	
Ile	Ile	Leu	Asp	Ser	Leu	Leu	Phe	Phe	Tyr	Asp	Cys	Ser	Asn	Asn	Pro
			20					25					30		
Ile	Ser	Glu	His	Phe	His	Pro	Thr	Val	Ile	Gly	Glu	Ser	Met	Tyr	Gly
			35				40					45			
Asp	Phe	Glu	Glu	Ala	Phe	Asp	His	Leu	Gln	Asn	Arg	Leu	Ile	Ala	Thr
	50					55					60				
Lys	Asn	Pro	Glu	Glu	Ile	Arg	Gly	Gly	Gly	Leu	Leu	Lys	Tyr	Ser	Asn
65					70					75				80	
Leu	Leu	Val	Arg	Asp	Phe	Arg	Pro	Thr	Asp	Gln	Glu	Glu	Ile	Lys	Thr
			85					90					95		
Leu	Glu	Arg	Tyr	Met	Cys	Ser	Arg	Phe	Phe	Ile	Asp	Phe	Pro	Asp	Ile
			100					105					110		
Leu	Glu	Gln	Gln	Arg	Lys	Leu	Glu	Thr	Tyr	Leu	Gln	Asn	His	Phe	Ala
			115					120					125		
Glu	Glu	Glu	Arg	Ser	Lys	Tyr	Asp	Tyr	Leu	Met	Ile	Leu	Arg	Arg	Val
	130					135					140				
Val	Asn	Glu	Ser	Thr	Val	Cys	Leu	Met	Gly	His	Glu	Arg	Arg	Gln	Thr
145					150					155				160	
Leu	Asn	Leu	Ile	Ser	Leu	Leu	Ala	Leu	Arg	Val	Leu	Gly	Gly	Thr	Lys
			165					170						175	
His	His	Pro	Pro	Val	Pro	Pro	Arg	Ser	Pro	Val	Thr	Thr	Ser	Gly	Pro
			180					185						190	
Leu	Ser	Gln													
			195												

<210> 3579

<211> 755

<212> DNA

<213> Homo sapiens

<400> 3579

acgcgtgatg tcactgagaa tgtttgctca cagtcaataa ttgtctttgt ggatgtgata  
 60  
 attttggaga tacacttctg gtcagaactc aggtgagata atcttgcaat actccaaatg  
 120  
 cagatactcc agccaccgcg aaggttcag gaaaggacaa tgtcctgcga gaaaatcagg  
 180

aggcctccac ttcctgggcc acttgagaag ttcctgggca tgtcactaca tgttggttga  
 240  
 ctacgccatt tctcatgctg ttttgtttct tgcggtggcc acttaacccc aaagaatgaa  
 300  
 gggaggatcc acagtgaaag tgcctgagtt tctctatgag accagatgct gtcgaaacca  
 360  
 aacatctttt cctttgctct atgggaacat tttagggttt gttttgcaca gctgggttcc  
 420  
 agactagaag attaacaagt ttgggtccac ccctaagaat cagtggctgt cttttaaggt  
 480  
 gaggagtgtg ggcttaactg aggtcctttg agggagctat aaaggagaaa caacctggga  
 540  
 catcccagtt ttcctattcc tccactgtta atatctcatc taaaataatt catgagttta  
 600  
 aatggtaaatt atatgcttta agctctacct ttaaacttgt atgttattca ggcattctct  
 660  
 attagatac tgggtctctg gataccaag gaaatgttgg ctttttattc ttatgtgggt  
 720  
 ccaaatttac ttctcttcag ttttaattgtc catgg  
 755

&lt;210&gt; 3580

&lt;211&gt; 121

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3580

Met	Phe	Gly	Phe	Asp	Ser	Ile	Trp	Ser	His	Arg	Glu	Thr	Gln	Ala	Leu
1				5					10					15	
Ser	Leu	Trp	Ile	Leu	Pro	Ser	Phe	Phe	Gly	Val	Lys	Trp	Pro	Pro	Gln
			20						25				30		
Glu	Thr	Lys	Gln	His	Glu	Lys	Trp	Leu	Ser	Gln	Pro	Thr	Cys	Ser	Asp
		35					40					45			
Met	Pro	Arg	Asn	Phe	Ser	Ser	Gly	Pro	Gly	Ser	Gly	Gly	Leu	Leu	Ile
	50					55					60				
Phe	Ser	Gln	Asp	Ile	Val	Leu	Ser	Trp	Asn	Leu	Ala	Gly	Gly	Trp	Ser
65					70					75				80	
Ile	Cys	Ile	Trp	Ser	Ile	Ala	Arg	Leu	Ser	His	Leu	Ser	Ser	Asp	Gln
				85					90					95	
Lys	Cys	Ile	Ser	Lys	Ile	Ile	Thr	Ser	Thr	Lys	Thr	Ile	Ile	Asp	Cys
			100					105						110	
Glu	Gln	Thr	Phe	Ser	Val	Thr	Ser	Arg							
			115					120							

&lt;210&gt; 3581

&lt;211&gt; 2132

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3581

nnggcgcccg ggcggtgctg cgctgccaga gccgcgcac ggtgtggacc caggaccggc  
 60  
 tgcacgaccg ccagcgcgtg ctccactggg acctgcgcgg ccccgggggg ggccccgcgc  
 120

ggcgccctgct ggacttgtac tcggcgggcg agcagcgcg gtacgaggcg cgggaccgcg  
180  
gccgcctgga gctctcggcc tcggccttcg acgacggcaa cttctcgtg ctcatccgcg  
240  
cgggtggagga gacggacgcg gggctgtaca cctgcaacct gcaccatcac tactgccacc  
300  
tctacgagag cctggccgtc cgccctggagg tcaccgacgg cccccggcc acccccgcc  
360  
actgggacgg cgagaaggag gtgctggcgg tggcgcgcg cgaccccgcg cttctgacct  
420  
gcgtgaaccg cgggcacgtg tggaccgacc ggcacgtgga ggaggctcaa cagggtggtgc  
480  
actgggacgg gcagccgccc ggggtcccg cgcaccgcg ggaccgcctg ctggacctct  
540  
acgcgtcggg cgagcgccgc gcctacgggc cccttttct gcgcgaccgc gtggctgtgg  
600  
gcgcggatgc ctttgagcgc ggtgacttct cactgcgtat cgagccgctg gaggtcgccg  
660  
acgagggcac ctactcctgc cactgcacc accattactg tggcctgcac gaacgcccgc  
720  
tcttccacct gacggtcgcc gaacccacg cggagccgc cccccgggc tctccgggca  
780  
acggctccag ccacagcggc gcccaggcc cagacccac actggcgcg gccacaacg  
840  
tcatcaatgt catcgcccc gagagccgag ccacttctt ccagcagctg ggctacgtgc  
900  
tgccacgct gctgctcttc atcctgctac tggcactgt cctcctggcc gcccgaggc  
960  
gccgcggagg ctacgaatac tcggaccaga agtcgggaaa gtcaaagggg aaggatgtta  
1020  
acttggcgga gtgcgtgtg gctgcagggg accagatgct ttacaggagt gaggacatcc  
1080  
agctagatta caaaaacaac atcctgaagg agagggcgga gctggccac agccccctgc  
1140  
ctgccaagta catcgaccta gacaaaggt tccggaagga gaactgcaa tagggaggcc  
1200  
ctgggctcct ggctgggcca gcagctgcac ctctcctgct tgtgctcctc ggggcatctc  
1260  
ctgatgctcc ggggctcacc cccttccag cggctggctc cgcttctctg gaatttgcc  
1320  
tgggcgtatg cagaggcgc ctccacaccc ctccccagg ggcttgggtg cagcatagcc  
1380  
cccacccctg cggcctttgc tcacgggtgg ccctgcccac ccctggcaca accaaaatcc  
1440  
cactgatgcc catcatgccc tcagaccctt ctgggctctg ccgctgggg gcctgaagac  
1500  
attcctggag gacactccca tcagaacctg gcagcccaa aactggggtc agcctcaggg  
1560  
caggagtccc actcctccag ggctctgctc gtccggggct gggagatgtt cctggaggag  
1620  
gacactccca tcagaacttg gcagccttga agttggggtc agcctcggca ggagtccac  
1680  
tcctcctggg gtgctgcctg ccaccaagag ctccccacc tgtaccacca tgtgggactc  
1740

caggcaccat ctgttctccc cagggacctg ctgacttgaa tgccagccct tgctcctctg  
 1800  
 tgttgctttg ggccaacctg ggctgcaccc cctgcccttt ctctgccccca tccctaccct  
 1860  
 agccttgctc tcagccacct tgatagtcac tgggctccct gtgacttctg accctgacac  
 1920  
 ccctcccttg gactctgcct gggctggagt ctagggctgg ggctacattt ggcttctgta  
 1980  
 ctggctgagg acaggggagg gagtgaagtt ggtttggggg ggctgtgtt gccactctca  
 2040  
 gcacccaca tttgcatctg ctggtggacc tgccaccatc acaataaagt ccccatctga  
 2100  
 tttttaaaaa aaaaaaaaaa aaaaaaaaaa aa  
 2132

<210> 3582  
 <211> 138  
 <212> PRT  
 <213> Homo sapiens

<400> 3582  
 Xaa Ala Pro Gly Arg Cys Cys Ala Ala Arg Ala Arg Ala Trp Cys Gly  
 1 5 10 15  
 Pro Arg Thr Gly Cys Thr Thr Ala Ser Ala Cys Ser Thr Gly Thr Cys  
 20 25 30  
 Ala Ala Pro Gly Val Ala Pro Arg Gly Ala Cys Trp Thr Cys Thr Arg  
 35 40 45  
 Arg Ala Ser Ser Ala Cys Thr Arg Arg Gly Thr Ala Ala Ala Trp Ser  
 50 55 60  
 Ser Arg Pro Arg Pro Ser Thr Thr Ala Thr Ser Arg Cys Ser Ser Ala  
 65 70 75 80  
 Arg Trp Arg Arg Arg Thr Arg Gly Cys Thr Pro Ala Thr Cys Thr Ile  
 85 90 95  
 Thr Thr Ala Thr Ser Thr Arg Ala Trp Pro Ser Ala Trp Arg Ser Pro  
 100 105 110  
 Thr Ala Pro Arg Pro Pro Pro Pro Thr Gly Thr Ala Arg Arg Arg Cys  
 115 120 125  
 Trp Arg Trp Arg Ala Ala His Pro Arg Phe  
 130 135

<210> 3583  
 <211> 1554  
 <212> DNA  
 <213> Homo sapiens

<400> 3583  
 tcattgagggg agagaatggc gccattttgc ggtacggaag ctacacagca acacgtatag  
 60  
 gagactctcc ccgagatctt ctagggagtg acccatctat ttttgtttgg gaagaggaaa  
 120  
 ctccgaaatg ggatcgcgga agacttaaag ggccaggctg attttttttt cctactgcag  
 180  
 gtctctgagg ctgtggttgc tacagggtca ccacgagctt ggcttacttg tctcatcctt  
 240

cccttgccctg gtatcatttt ctcatgttctc ccaaaaagcca tgtcccggcc cttgctcatc  
 300  
 accttcaccc cagccactga cccagcgac ctctggaagg atgggcagca gcagccacag  
 360  
 cccgagaagc cagagtccac cctggatggg gctgcagccc gagctttcta tgaggccctg  
 420  
 attggggatg agagcagcgc tcctgactcc cagagatctc agactgaacc tgccagagaa  
 480  
 agaaagagaa agaaaagaag aataatgaag gcaccagcag cagaagcagt ggcagaagga  
 540  
 gcatcaggaa gacatggaca agggagatcc cttgaggctg aggataagat gactcaccgg  
 600  
 atactgaggg cagcccagga gggggacctg ccagaactta ggagactgct ggaaccgcat  
 660  
 gaggcaggag gagctggggg gaatatcaac gcccgggatg ctttctggtg gacccactg  
 720  
 atgtgtgctg ctcgagcggg ccagggggca gctgtgagct atctcctggg ccgtggggct  
 780  
 gcctgggtgg ggggtctgtga gctgagtggc agggatgcgg ctcatgctcg tgaagaagct  
 840  
 ggcttccctg aggtagcccg catggtcagg gagagccatg gagagacaag gagcccggaa  
 900  
 aaccggcttc ctactccctc cctccagtac tgcgagaact gtgacacca cttccaagat  
 960  
 tccaaccacc gcacatccac tgctcacctg ctgtcactgt cgcagggctc tcagcctccc  
 1020  
 aaccttccac ttgggggtgcc catctccagc ccgggcttca aactgctgct gagggggggc  
 1080  
 tgggagccag gaatggggct gggaccccgg ggtgagggcc gtgccaatcc catccccact  
 1140  
 gtcccaaga gggaccagga aggactaggc tacagatcag caccacagcc ccgagtgaca  
 1200  
 catttcccag cttgggatac ccgagctgtg gctgggaggg agagaccccc tcgggtggcc  
 1260  
 aactgagct ggagggagga gagaaggagg gaggagaaag acagggcttg ggagcgggat  
 1320  
 ctaaggactt acatgaacct cgagttctga ctttggtaaa gtctgacct agtctgctgc  
 1380  
 tgaagtctga acttgggcct ctgacctggg ccctttgact tccccttctt gggatctgct  
 1440  
 cagatgcaga tcctgaagtt tttggtcaat aggctctgtc ttcgtgagag acgggctgag  
 1500  
 agtcagaaat aaatcaacca tttgtggttt aaaaaaaaaa aaaaacaaag tttt  
 1554

&lt;210&gt; 3584

&lt;211&gt; 356

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3584

Met Ser Arg Pro Leu Leu Ile Thr Phe Thr Pro Ala Thr Asp Pro Ser  
 1 5 10 15  
 Asp Leu Trp Lys Asp Gly Gln Gln Gln Pro Gln Pro Glu Lys Pro Glu

```

                20                25                30
Ser Thr Leu Asp Gly Ala Ala Ala Arg Ala Phe Tyr Glu Ala Leu Ile
                35                40                45
Gly Asp Glu Ser Ser Ala Pro Asp Ser Gln Arg Ser Gln Thr Glu Pro
    50                55                60
Ala Arg Glu Arg Lys Arg Lys Lys Arg Arg Ile Met Lys Ala Pro Ala
    65                70                75                80
Ala Glu Ala Val Ala Glu Gly Ala Ser Gly Arg His Gly Gln Gly Arg
                85                90                95
Ser Leu Glu Ala Glu Asp Lys Met Thr His Arg Ile Leu Arg Ala Ala
                100                105                110
Gln Glu Gly Asp Leu Pro Glu Leu Arg Arg Leu Leu Glu Pro His Glu
                115                120                125
Ala Gly Gly Ala Gly Gly Asn Ile Asn Ala Arg Asp Ala Phe Trp Trp
    130                135                140
Thr Pro Leu Met Cys Ala Ala Arg Ala Gly Gln Gly Ala Ala Val Ser
    145                150                155                160
Tyr Leu Leu Gly Arg Gly Ala Ala Trp Val Gly Val Cys Glu Leu Ser
                165                170                175
Gly Arg Asp Ala Ala Gln Leu Ala Glu Glu Ala Gly Phe Pro Glu Val
                180                185                190
Ala Arg Met Val Arg Glu Ser His Gly Glu Thr Arg Ser Pro Glu Asn
                195                200                205
Arg Ser Pro Thr Pro Ser Leu Gln Tyr Cys Glu Asn Cys Asp Thr His
    210                215                220
Phe Gln Asp Ser Asn His Arg Thr Ser Thr Ala His Leu Leu Ser Leu
    225                230                235                240
Ser Gln Gly Pro Gln Pro Pro Asn Leu Pro Leu Gly Val Pro Ile Ser
                245                250                255
Ser Pro Gly Phe Lys Leu Leu Leu Arg Gly Gly Trp Glu Pro Gly Met
    260                265                270
Gly Leu Gly Pro Arg Gly Glu Gly Arg Ala Asn Pro Ile Pro Thr Val
    275                280                285
Leu Lys Arg Asp Gln Glu Gly Leu Gly Tyr Arg Ser Ala Pro Gln Pro
    290                295                300
Arg Val Thr His Phe Pro Ala Trp Asp Thr Arg Ala Val Ala Gly Arg
    305                310                315                320
Glu Arg Pro Pro Arg Val Ala Thr Leu Ser Trp Arg Glu Glu Arg Arg
                325                330                335
Arg Glu Glu Lys Asp Arg Ala Trp Glu Arg Asp Leu Arg Thr Tyr Met
    340                345                350
Asn Leu Glu Phe
    355

```

&lt;210&gt; 3585

&lt;211&gt; 2782

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3585

```

nccgacgcgc agtcgtatcc gtgtgatggg cgggctgttg acggcgctgc gatggctgcc
60
tgcgagggca ggagaagcgg agctctcggt tcctctcagt cggacttcct gacgccgcc
120

```

gtgggcgggg ccccttgggc cgctgccacc actgtagtca tgtacccacc gccgcgcgcg  
180  
ccgcctcatc gggacttcat ctccgtgacg ctgagctttg gcgagagcta tgacaacagc  
240  
aagagttggc ggcggcgctc gtgctggagg aaatggaagc aactgtcgag attgcagcgg  
300  
aatatgattc tcttctctct tgcttttctg cttttctgtg gactcctctt ctacatcaac  
360  
ttggctgacc attggaagc tctggctttc aggctagagg aagagcagaa gatgaggcca  
420  
gaaattgctg ggtaaaaacc agcaaatacca cccgtcttac cagctcctca gaaggcggac  
480  
accgacctg agaacttacc tgagatttcg tcacagaaga cacaagaca catccagcgg  
540  
ggaccacctc acctgcagat tagaccccca agccaagacc tgaaggatgg gaccagagg  
600  
gagggccaaa aaaggcaaga agccctgtg gatccccgcc cggaaggaga tccgcagagg  
660  
acagtcatca gctggagggg agcggtgatc gagcctgagc agggcaccga gctcccttca  
720  
agaagagcag aagtgcacc caagcctccc ctgccaccgg ccaggacaca gggcacacca  
780  
gtgcatctga actatcgcca gaagggcgtg attgacgtct tctgcatgc atggaaagga  
840  
taccgcaagt ttgcatgggg ccatgacgag ctgaagcctg tgtccaggtc cttcagtga  
900  
tggtttggcc tcggtctcac actgatcgac gcgctggaca ccatgtggat cttgggtctg  
960  
aggaaagaat ttgaggaagc caggaagtgg gtgtcgaaga agttacactt tgaaaaggac  
1020  
gtggacgtca acctgtttga gagcacgac cgcatcctgg gggggctcct gagtgcctac  
1080  
cacctgtctg gggacagcct cttctgagg aaagctgagg attttgaaa tcggctaattg  
1140  
cctgccttca gaacaccatc caagattcct tactcggatg tgaacatcgg tactggagtt  
1200  
gcccaccgc cccgtggac ctccgacgc actgtggccg aggtgaccag cattcagctg  
1260  
gagttccggg agctctccc tctcacagg gataagaagt ttcaggaggc agtggaag  
1320  
gtgacacagc acatccacgg cctgtctggg aagaaggatg ggctggtgcc catgttcatc  
1380  
aataccaca gtggcctctt caccacctg ggcgtattca cgctgggcgc cagggccgac  
1440  
agctactatg agtacctgct gaagcagtgg atccaggcg ggaagcagga gacacagctg  
1500  
ctggaagact acgtggaagc catcgagggt gtcagaacgc acctgtgctg gactccgag  
1560  
cccagtaagc tcacctttgt gggggagctt gccacggcc gcttcagtgc caagatggac  
1620  
cacctgggtg gcttctgccc agggacgctg gctctggcg tctaccacgg cctgcccgc  
1680  
agccacatgg agctggccca ggagctcatg gagacttgtt accagatgaa ccggcagatg  
1740



gagacggggc tgagtcccgat gatcgtgcac ttcaaccttt acccccagcc gggccgtcgg  
 1800  
 gacgtggagg tcaagccagc agacaggcac aacctgctgc ggccagagac cgtggagagc  
 1860  
 ctgttctacc tgtaccgct cacaggggac cgcaaatacc aggactgggg ctgggagatt  
 1920  
 ctgcagagct tcagccgatt cacacgggtc ccctcgggtg gctattcttc catcaacaat  
 1980  
 gtccaggatc ctcaagaagc cgagcctagg gacaagatgg agagcttctt cctgggggag  
 2040  
 acgtcaagt atctgttctt gctcttctcc gatgaccaa acctgctcag cctggacgcc  
 2100  
 tacgtgttca acaccgaagc ccacctctg cctatctgga cccctgccta ggggtgatgg  
 2160  
 ctgctgggtg ggggacttcg ggtgggcaga ggcacctgc tgggtctgtg gcattttcca  
 2220  
 agggcccacg tagcaccggc aaccgccaag tggcccaggc tctgaactgg ctctgggctc  
 2280  
 ctctcgtct ctgctttaat caggacaccg tgaggacaag tgaggccgct agtcttggtg  
 2340  
 tgatgcgggg tgggctgggc cgctggagcc tccgcctgct tcctccagaa gacacgaatc  
 2400  
 atgactcacg attgctgaag cctgagcagg tctctgtggg ccgaccagag gggggcttcg  
 2460  
 aggtggtccc tggtagtggg gtgaccgagt ggacagcca ggggtgcagct ctgcccgggc  
 2520  
 tcgtgaagcc tcagatgtcc ccaatccaag ggtctggagg ggctgccgtg actccagagg  
 2580  
 cctgaggctc cagggtgggc tctggtgttt acaagctgga ctgaggatc ctcttgccg  
 2640  
 cccgcagggg ggcttgagg gctggacggc aagtccgtct agctcacggg cccctccagt  
 2700  
 ggaatgggtc ttttcggtgg agataaaagt tgatttgctc taaaaaaaaa aaaaaaaaaa  
 2760  
 aaaaaaaaaa aaaaaaaaaa aa  
 2782

&lt;210&gt; 3586

&lt;211&gt; 663

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3586

Met	Tyr	Pro	Pro	Pro	Pro	Pro	Pro	His	Arg	Asp	Phe	Ile	Ser	Val	
1			5				10					15			
Thr	Leu	Ser	Phe	Gly	Glu	Ser	Tyr	Asp	Asn	Ser	Lys	Ser	Trp	Arg	Arg
			20				25					30			
Arg	Ser	Cys	Trp	Arg	Lys	Trp	Lys	Gln	Leu	Ser	Arg	Leu	Gln	Arg	Asn
		35				40					45				
Met	Ile	Leu	Phe	Leu	Leu	Ala	Phe	Leu	Leu	Phe	Cys	Gly	Leu	Leu	Phe
	50				55					60					
Tyr	Ile	Asn	Leu	Ala	Asp	His	Trp	Lys	Ala	Leu	Ala	Phe	Arg	Leu	Glu
65			70					75				80			
Glu	Glu	Gln	Lys	Met	Arg	Pro	Glu	Ile	Ala	Gly	Leu	Lys	Pro	Ala	Asn

												85						90						95	
Pro	Pro	Val	Leu	Pro	Ala	Pro	Gln	Lys	Ala	Asp	Thr	Asp	Pro	Glu	Asn										
				100						105						110									
Leu	Pro	Glu	Ile	Ser	Ser	Gln	Lys	Thr	Gln	Arg	His	Ile	Gln	Arg	Gly										
				115						120						125									
Pro	Pro	His	Leu	Gln	Ile	Arg	Pro	Pro	Ser	Gln	Asp	Leu	Lys	Asp	Gly										
				130						135						140									
Thr	Gln	Glu	Glu	Ala	Thr	Lys	Arg	Gln	Glu	Ala	Pro	Val	Asp	Pro	Arg										
				145						150						155									
Pro	Glu	Gly	Asp	Pro	Gln	Arg	Thr	Val	Ile	Ser	Trp	Arg	Gly	Ala	Val										
				165						170						175									
Ile	Glu	Pro	Glu	Gln	Gly	Thr	Glu	Leu	Pro	Ser	Arg	Arg	Ala	Glu	Val										
				180						185						190									
Pro	Thr	Lys	Pro	Pro	Leu	Pro	Pro	Ala	Arg	Thr	Gln	Gly	Thr	Pro	Val										
				195						200						205									
His	Leu	Asn	Tyr	Arg	Gln	Lys	Gly	Val	Ile	Asp	Val	Phe	Leu	His	Ala										
				210						215						220									
Trp	Lys	Gly	Tyr	Arg	Lys	Phe	Ala	Trp	Gly	His	Asp	Glu	Leu	Lys	Pro										
				225						230						235									
Val	Ser	Arg	Ser	Phe	Ser	Glu	Trp	Phe	Gly	Leu	Gly	Leu	Thr	Leu	Ile										
				245						250						255									
Asp	Ala	Leu	Asp	Thr	Met	Trp	Ile	Leu	Gly	Leu	Arg	Lys	Glu	Phe	Glu										
				260						265						270									
Glu	Ala	Arg	Lys	Trp	Val	Ser	Lys	Lys	Leu	His	Phe	Glu	Lys	Asp	Val										
				275						280						285									
Asp	Val	Asn	Leu	Phe	Glu	Ser	Thr	Ile	Arg	Ile	Leu	Gly	Gly	Leu	Leu										
				290						295						300									
Ser	Ala	Tyr	His	Leu	Ser	Gly	Asp	Ser	Leu	Phe	Leu	Arg	Lys	Ala	Glu										
				305						310						315									
Asp	Phe	Gly	Asn	Arg	Leu	Met	Pro	Ala	Phe	Arg	Thr	Pro	Ser	Lys	Ile										
				325						330						335									
Pro	Tyr	Ser	Asp	Val	Asn	Ile	Gly	Thr	Gly	Val	Ala	His	Pro	Pro	Arg										
				340						345						350									
Trp	Thr	Ser	Asp	Ser	Thr	Val	Ala	Glu	Val	Thr	Ser	Ile	Gln	Leu	Glu										
				355						360						365									
Phe	Arg	Glu	Leu	Ser	Arg	Leu	Thr	Gly	Asp	Lys	Lys	Phe	Gln	Glu	Ala										
				370						375						380									
Val	Glu	Lys	Val	Thr	Gln	His	Ile	His	Gly	Leu	Ser	Gly	Lys	Lys	Asp										
				385						390						395									
Gly	Leu	Val	Pro	Met	Phe	Ile	Asn	Thr	His	Ser	Gly	Leu	Phe	Thr	His										
				405						410						415									
Leu	Gly	Val	Phe	Thr	Leu	Gly	Ala	Arg	Ala	Asp	Ser	Tyr	Tyr	Glu	Tyr										
				420						425						430									
Leu	Leu</																								

```

      515              520              525
Thr Gly Leu Ser Pro Glu Ile Val His Phe Asn Leu Tyr Pro Gln Pro
  530              535              540
Gly Arg Arg Asp Val Glu Val Lys Pro Ala Asp Arg His Asn Leu Leu
545              550              555              560
Arg Pro Glu Thr Val Glu Ser Leu Phe Tyr Leu Tyr Arg Val Thr Gly
      565              570              575
Asp Arg Lys Tyr Gln Asp Trp Gly Trp Glu Ile Leu Gln Ser Phe Ser
  580              585              590
Arg Phe Thr Arg Val Pro Ser Gly Gly Tyr Ser Ser Ile Asn Asn Val
  595              600              605
Gln Asp Pro Gln Lys Pro Glu Pro Arg Asp Lys Met Glu Ser Phe Phe
  610              615              620
Leu Gly Glu Thr Leu Lys Tyr Leu Phe Leu Leu Phe Ser Asp Asp Pro
625              630              635              640
Asn Leu Leu Ser Leu Asp Ala Tyr Val Phe Asn Thr Glu Ala His Pro
      645              650              655
Leu Pro Ile Trp Thr Pro Ala
      660

```

&lt;210&gt; 3587

&lt;211&gt; 3148

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3587

```

nctttttttt ttttttttga gtgtggggtc agtttattgg gcatgcgta gtcagaggct
60
gggctggcca gggctgggta gggcagcagt ttgtctggac cccgagaaac ccaactggaa
120
tccagggcct catctgcttc aaagccaaag tcttctctca ccttaatctg caccggggcc
180
agctctggag tcagcgcatc tcctgctcgg cgtccatccc gtggcactcg ccgcctcttc
240
cgcccactgg gcccctcacc gggggctggg ctgccggggt ctgggggtgc aggagtcctt
300
ctgggcgggg acagtgtctc tttctctgga ggctcattct ccgcattgcc tggggtgggg
360
gcatccgtgc cctggctgcc ctcatcctcc agcacaatgg tgaactggtt ggcccgttag
420
tcatccccgt aggagtccag cactctcatg aggaacctcc gttcctgctg cagcctccga
480
gttatcctct gcacctgatg gagcctgttc aggaccgct cgttcacctg ctgatctcc
540
cggcagcgcc gacctagtgc ctggtacttt ctgcatgta attcccgtg gcgcccgcgc
600
cgaccccgga ctgcctcttc ctctcatct cgctcccgga gccctgagcc gccagacca
660
cctgacacaa actccacttc cgtctccagc tcgctctcca ggatgtggcc accaaatagg
720
ggaggcaacg ccaactctga gcctggcggc gctgagaact cctcaaagcc cagggctgcc
780
atgggtccct ctctctgctc caattccatc tccgacacct ccggaagccc cgggcctcag
840

```

agcttccgac ctcttcaatc tgtagggttaa gccgttcgca aaactacttg tcccatcagg  
900  
ctcagcagcc gaggacggcg ggacgtggcc ctaggccttg tgggagttgt agtttcctgt  
960  
ttccggcttc gcttcggccc acccccacgt ccaccccgaa tccttctta aaggccttgc  
1020  
tttcttgtct aacgccgcaa ccagtcctct gagttgccaa cgtctttctt cttgtctcga  
1080  
cgccccgtcg tccggccaca gcgattctct gcttagcagg atcgggccac agcgggacgt  
1140  
gagtctcttt cctcctcgcg gcttaccgct ctctccgcct agtgccagggt gctaataaag  
1200  
ttgttgtttc aaatgcggcc aggaacatcg cgagcgggga ccaatcagag agtagctttg  
1260  
cctctataac ggcgcgagag tgagacgtca tcggtagagcg actaacgcta gaaacagtgg  
1320  
tgccgggaga ggagaggcct cgggatgtct ctggcagatg agctcttagc tgatctcga  
1380  
gaggcagcag aagaggagga aggaggaagc tatggggagg aagaagagga gccagcgcac  
1440  
gaggatgtgc aggaggagac acagctggat ctttccgggg attcagtcaa gaccatcgcc  
1500  
aagctatggg atagtaagat gtttgctgag attatgatga agattgagga gtatatcagc  
1560  
aagcaagcca aagcttcaga agtgatggga ccagtggagg ccgcgcctga ataccgcgtc  
1620  
atcgtggatg ccaacaacct gaccgtggag atcgaaaacg agctgaacat catccataag  
1680  
ttcatccggg ataagtactc aaagagattc cctgaactgg agtccttggg cccaatgca  
1740  
ctggattaca tccgcacggg caaggagctg ggcaacagcc tggacaagtg caagaacaat  
1800  
gagaacctgc agcagatcct caccaatgcc accatcatgg tcgtcagcgt caccgcctcc  
1860  
accacccagg ggcagcagct gtcggaggag gagctggagc ggctggagga ggctgcgac  
1920  
atggcgctgg agctgaacgc ctccaagcac cgcattctac agtatgtgga gtcccggatg  
1980  
tccttcatcg caccacaacct gtccatcatt atcggggcat ccacggccgc caagatcatg  
2040  
ggtgtggccg gcggcctgac caacctctcc aagatgcccg cctgcaacat catgctgctc  
2100  
ggggcccagc gcaagacgct gtcgggcttc tcgtctacct cagtgtgccc ccacaccggc  
2160  
tacatctacc acagtgcacat cgtgcagtcc ctgccaccgg atctgcggcg gaaagcggcc  
2220  
cggctggtgg ccgccaagtg cacactggca gcccggtggg acagtttcca cgagagcaca  
2280  
gaagggaagg tgggctacga actgaaggat gagatcgagc gcaaattcga caagtggcag  
2340  
gagccgcgcg ctgtgaagca ggtgaagccg ctgcctgcgc ccctggatgg acagcggaa  
2400  
aagcgaggcg gccgcaggta ccgcaagatg aaggagcggc tggggctgac ggagatccgg  
2460

aagcaggcca accgtatgag cttcggagag atcgaggagg acgcctacca ggaggacctg  
2520  
ggattcagcc tgggccacct gggcaagtcg ggcagtgggc gtgtgaggca gacacaggta  
2580  
aacgaggcca ccaaggccag gatctccaag acgctgcagc ggaccctgca gaagcagagc  
2640  
gtcgtatatg gcgggaagtc caccatccgc gaccgctcct cgggcacggc ctccagcgtg  
2700  
gccttcaccc cactccaggg cctggagatt gtgaaccac aggcggcaga gaagaagggtg  
2760  
gctgaggcca accagaagta tttctccagc atggctgagt tcctcaaggc caagggcgag  
2820  
aagagtggcc ttatgtccac ctgaatgact gcgtgtgtcc aaggtggctt cccactgaag  
2880  
ggacacagag gtccagtcct tctgaagggc taggatcggg ttctggcagg gagaacctgc  
2940  
cctgccactg gcccattgc tgggactgcc cagggaggag gccttggaag agtcggcct  
3000  
ggcctcccc aggaccgaga tcaccgcca gtatgggcta gagcaggtct tcacatgccc  
3060  
ttgtcttttt taactgagaa aggagatttt ttgaaaagag tacaattaaa aggacattgt  
3120  
caagatctgt caaaaaaaaa aaaaaaaaa  
3148

&lt;210&gt; 3588

&lt;211&gt; 499

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3588

Met	Ser	Leu	Ala	Asp	Glu	Leu	Leu	Ala	Asp	Leu	Glu	Glu	Ala	Ala	Glu
1				5					10					15	
Glu	Glu	Glu	Gly	Gly	Ser	Tyr	Gly	Glu	Glu	Glu	Glu	Pro	Ala	Ile	
			20					25					30		
Glu	Asp	Val	Gln	Glu	Glu	Thr	Gln	Leu	Asp	Leu	Ser	Gly	Asp	Ser	Val
			35				40					45			
Lys	Thr	Ile	Ala	Lys	Leu	Trp	Asp	Ser	Lys	Met	Phe	Ala	Glu	Ile	Met
			50				55				60				
Met	Lys	Ile	Glu	Glu	Tyr	Ile	Ser	Lys	Gln	Ala	Lys	Ala	Ser	Glu	Val
65					70					75				80	
Met	Gly	Pro	Val	Glu	Ala	Ala	Pro	Glu	Tyr	Arg	Val	Ile	Val	Asp	Ala
				85					90					95	
Asn	Asn	Leu	Thr	Val	Glu	Ile	Glu	Asn	Glu	Leu	Asn	Ile	Ile	His	Lys
			100						105					110	
Phe	Ile	Arg	Asp	Lys	Tyr	Ser	Lys	Arg	Phe	Pro	Glu	Leu	Glu	Ser	Leu
			115					120					125		
Val	Pro	Asn	Ala	Leu	Asp	Tyr	Ile	Arg	Thr	Val	Lys	Glu	Leu	Gly	Asn
			130				135					140			
Ser	Leu	Asp	Lys	Cys	Lys	Asn	Asn	Glu	Asn	Leu	Gln	Gln	Ile	Leu	Thr
145					150					155				160	
Asn	Ala	Thr	Ile	Met	Val	Val	Ser	Val	Thr	Ala	Ser	Thr	Thr	Gln	Gly
				165					170					175	
Gln	Gln	Leu	Ser	Glu	Glu	Glu	Leu	Glu	Arg	Leu	Glu	Glu	Ala	Cys	Asp

2750

accttcattt cagtcccagc agcctccccc aaccagtcag ggtccctgaa gagcatctgg  
 240  
 ctctccacaa gacaatagac aggaagggga cccagtggcc cccccaagct tagctaattg  
 300  
 gagtgaagaa ccaggcagaa cccaggcagc agatgggata ggagtttcca agccagtgt  
 360  
 tggggatagg ccctcccaat tcagaaacaa agcaaggccc tggccacagc caggaaggat  
 420  
 tgtaagggcc ttcttgagca gacacaaagg agccctgagc tgctgggggt gatgaggagc  
 480  
 ggaggcaggg ccaggcagag ggtctgcaaa gaattacact ggaaagggtg aagggggaca  
 540  
 ttgggtctag tggtttgcc tgtggagagc tgtcaggaga ggggaggatg aggttgggtg  
 600  
 agacgcctga ggcaagggtg tttgggggtc ttgttggcag catggtggca aaaggctcca  
 660  
 gaggcagcca cgcgt  
 675

<210> 3590

<211> 117

<212> PRT

<213> Homo sapiens

<400> 3590

Met	Leu	Pro	Thr	Arg	Pro	Pro	Asn	Thr	Leu	Ala	Ser	Gly	Val	Ser	Thr
1				5				10					15		
Asn	Leu	Ile	Leu	Pro	Ser	Pro	Asp	Ser	Ser	Pro	Gln	Ala	Lys	Pro	Leu
		20					25					30			
Asp	Pro	Met	Ser	Pro	Phe	His	Leu	Ser	Ser	Val	Ile	Leu	Cys	Arg	Pro
	35					40					45				
Ser	Ala	Trp	Pro	Cys	Leu	Arg	Ser	Ser	Ser	Pro	Pro	Ala	Ala	Gln	Gly
	50				55					60					
Ser	Phe	Val	Ser	Ala	Gln	Glu	Gly	Pro	Tyr	Asn	Pro	Ser	Trp	Leu	Trp
65				70				75					80		
Pro	Gly	Pro	Cys	Phe	Val	Ser	Glu	Leu	Gly	Gly	Pro	Ile	Pro	Lys	His
			85				90					95			
Trp	Leu	Gly	Asn	Ser	Tyr	Pro	Ile	Cys	Cys	Leu	Gly	Ser	Ala	Trp	Phe
			100				105					110			
Phe	Thr	His	Ile	Ser											
			115												

<210> 3591

<211> 669

<212> DNA

<213> Homo sapiens

<400> 3591

nacgcgtgct ctgcgcttgc catgagactc ctgggagccg cagccgtcgc ggctctgggg  
 60  
 cgcggaaggg ccccgccctc cctaggctgg cagaggaagc aggttaattg gaaggcctgc  
 120  
 cgatgggtctt catcaggggt gattcctaata gaaaaaatac gaaatattgg aatctcagct  
 180

cacattgatt ctgggaaaac tacattaaca gaacgagtcc ttactacac tggcagaatt  
 240  
 gcaaagatgc atgaggtgaa aggtaaagat ggagttggtg ctgtcatgga ttccatggaa  
 300  
 ctgagagac aaagaggaat cactattcag tcagcagcca cttacaccat gtggaaagat  
 360  
 gtcaatatta acattataga tactcctggg catgtggact tcacaataga agtggaaagg  
 420  
 gccctgagag tgttgatgg tgcagtcctt gttctctgtg ctgttgagg ggtacagtgc  
 480  
 cagaccatga ctgtcaatcg tcagatgaag cgctacaacg ttccgtttct aacttttatt  
 540  
 aacaaattgg accgaatggg ctccaaccca gccagggccc tgcagcaaat gaggtctaaa  
 600  
 ctaaatcata atgcagcgtt tatgcagata cccatgggtt tggagggtaa ttttaaaggt  
 660  
 attgtagat  
 669

&lt;210&gt; 3592

&lt;211&gt; 223

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3592

Xaa	Ala	Cys	Ser	Ala	Leu	Ala	Met	Arg	Leu	Leu	Gly	Ala	Ala	Ala	Val
1				5					10					15	
Ala	Ala	Leu	Gly	Arg	Gly	Arg	Ala	Pro	Ala	Ser	Leu	Gly	Trp	Gln	Arg
		20						25					30		
Lys	Gln	Val	Asn	Trp	Lys	Ala	Cys	Arg	Trp	Ser	Ser	Ser	Gly	Val	Ile
		35					40					45			
Pro	Asn	Glu	Lys	Ile	Arg	Asn	Ile	Gly	Ile	Ser	Ala	His	Ile	Asp	Ser
		50				55					60				
Gly	Lys	Thr	Thr	Leu	Thr	Glu	Arg	Val	Leu	Tyr	Tyr	Thr	Gly	Arg	Ile
65					70					75				80	
Ala	Lys	Met	His	Glu	Val	Lys	Gly	Lys	Asp	Gly	Val	Gly	Ala	Val	Met
				85					90					95	
Asp	Ser	Met	Glu	Leu	Glu	Arg	Gln	Arg	Gly	Ile	Thr	Ile	Gln	Ser	Ala
		100						105					110		
Ala	Thr	Tyr	Thr	Met	Trp	Lys	Asp	Val	Asn	Ile	Asn	Ile	Ile	Asp	Thr
		115					120					125			
Pro	Gly	His	Val	Asp	Phe	Thr	Ile	Glu	Val	Glu	Arg	Ala	Leu	Arg	Val
		130				135					140				
Leu	Asp	Gly	Ala	Val	Leu	Val	Leu	Cys	Ala	Val	Gly	Gly	Val	Gln	Cys
145					150					155				160	
Gln	Thr	Met	Thr	Val	Asn	Arg	Gln	Met	Lys	Arg	Tyr	Asn	Val	Pro	Phe
				165					170					175	
Leu	Thr	Phe	Ile	Asn	Lys	Leu	Asp	Arg	Met	Gly	Ser	Asn	Pro	Ala	Arg
		180						185					190		
Ala	Leu	Gln	Met	Arg	Ser	Lys	Leu	Asn	His	Asn	Ala	Ala	Phe	Met	
		195				200					205				
Gln	Ile	Pro	Met	Gly	Leu	Glu	Gly	Asn	Phe	Lys	Gly	Ile	Val	Asp	
		210					215					220			



<210> 3593  
 <211> 1005  
 <212> DNA  
 <213> Homo sapiens

<400> 3593  
 gaacgaaaga tggcggcgcc cgtaaggcgg acgctgttag gggcggcggg gggcggcggg  
 60  
 cggcttcgaga ggctctgggc cggcagtccta agctctcgca gcctggctct tgcagccgca  
 120  
 ccctcaagca acggatcccc atggcgcttg ttggcgcggt tgtgcctgca gcggccacct  
 180  
 gtactctcca agccgttgac ccattgcag gaagagatgg cgtctctact gcagcagatt  
 240  
 gagatagaga gaagcctgta ttcagaccac gagcttcgtg ctctggatga aaaccagcga  
 300  
 ctggcaaaga agaaagctga ccttcattgat gaagaagatg aacaggatat attgctggcg  
 360  
 caagatttgg aagatatgtg ggagcagaaa tttctacagt tcaaacttgg agctcgcata  
 420  
 acagaagctg atgaaaagaa tgaccgaaca tccctgaaca ggaagctaga caggaacctt  
 480  
 gtcctgttag tcagagagaa gtttggagac caggatgttt ggatactgcc ccaggcagag  
 540  
 tggcagcctg gggagaccct tcgaggaaca gctgaacgaa ccctggccac actctcagaa  
 600  
 aacaacatgg aagccaagtt cctaggaaat gcaccctgtg ggactacac attcaagttc  
 660  
 cccagggcaa tgcggacaga gagtaacctc ggagccaagg tgttcttctt caaagcactg  
 720  
 ctattaactg gagacttttc ccaggctggg aataagggcc atcatgtgtg ggtcactaag  
 780  
 gatgagctgg gtgactatct gaaacaaaaa tacctggccc aagttaggag gtttgtttca  
 840  
 gacctctgat gggccgagct gcctgtggac ggtgctcaga caagtctggg attagagcct  
 900  
 caaggacatt gtgtgattgc ctcacatttg caggtaatat caagcagcaa actaaattct  
 960  
 gagaaataaa cgagtctatt actgaaaaaa aaaaaaaaaa aaaaa  
 1005

<210> 3594  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens

<400> 3594  
 Glu Arg Lys Met Ala Ala Pro Val Arg Arg Thr Leu Leu Gly Val Ala  
 1 5 10 15  
 Gly Gly Trp Arg Arg Phe Glu Arg Leu Trp Ala Gly Ser Leu Ser Ser  
 20 25 30  
 Arg Ser Leu Ala Leu Ala Ala Ala Pro Ser Ser Asn Gly Ser Pro Trp  
 35 40 45  
 Arg Leu Leu Gly Ala Leu Cys Leu Gln Arg Pro Pro Val Val Ser Lys

50		55		60
Pro Leu Thr	Pro Leu Gln	Glu Glu Met	Ala Ser Leu	Leu Gln Gln Ile
65	70	75	80	
Glu Ile Glu	Arg Ser Leu	Tyr Ser Asp	His Glu Leu	Arg Ala Leu Asp
	85	90	95	
Glu Asn Gln	Arg Leu Ala	Lys Lys Lys	Ala Asp Leu	His Asp Glu Glu
	100	105	110	
Asp Glu Gln	Asp Ile Leu	Leu Ala Gln	Asp Leu Glu	Asp Met Trp Glu
	115	120	125	
Gln Lys Phe	Leu Gln Phe	Lys Leu Gly	Ala Arg Ile	Thr Glu Ala Asp
	130	135	140	
Glu Lys Asn	Asp Arg Thr	Ser Leu Asn	Arg Lys Leu	Asp Arg Asn Leu
145	150	155	160	
Val Leu Leu	Val Arg Glu	Lys Phe Gly	Asp Gln Asp	Val Trp Ile Leu
	165	170	175	
Pro Gln Ala	Glu Trp Gln	Pro Gly Glu	Thr Leu Arg	Gly Thr Ala Glu
	180	185	190	
Arg Thr Leu	Ala Thr Leu	Ser Glu Asn	Asn Met Glu	Ala Lys Phe Leu
	195	200	205	
Gly Asn Ala	Pro Cys Gly	His Tyr Thr	Phe Lys Phe	Pro Gln Ala Met
	210	215	220	
Arg Thr Glu	Ser Asn Leu	Gly Ala Lys	Val Phe Phe	Lys Ala Leu
225	230	235	240	
Leu Leu Thr	Gly Asp Phe	Ser Gln Ala	Gly Asn Lys	Gly His His Val
	245	250	255	
Trp Val Thr	Lys Asp Glu	Leu Gly Asp	Tyr Leu Lys	Pro Lys Tyr Leu
	260	265	270	
Ala Gln Val	Arg Arg Phe	Val Ser Asp	Leu	
275	280			

&lt;210&gt; 3595

&lt;211&gt; 1903

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3595

```

ttccaggtga cccgggggga ctacgcgcc atcctccaga aggtggtgga gcagctggag
60
aaagccaagg cctatgcagc caacagccac caggggcaga tgctggccca gtatatagag
120
agcttcaccc agggctccat cgaggccac aagaggggct cccgcttctg gatccaggac
180
aaaggcccca tcgtggagag ttacatcggt ttcacgaga gctaccgga cccctttggt
240
tcccaggag aattgaagg ttctgtagt gtggtgaaca aggccatgag tgccaagttt
300
gagcggctgg tggcagcgc agagcagctg ctgaaggagc tgccctggcc cccaaccttt
360
gagaaggaca agttctcac cctgacttc acctccctgg atgttctcac ctctgctggc
420
tccggcatcc ctgccggcat caacatcccc aactacgatg atctgaggca gacggaaggc
480
tttaagaacg tgtcgtggg gaatgtgctg gctgtggcct acgccacgca gcgggagaag
540

```

cttacctttc tggaggagga tgacaaggac ctgtacatcc tctggaaggg gccctccttc  
600  
gatgtgcagg tgggcctgca cgagctgctg ggccatggca gtggcaagct ctctgtacag  
660  
gacgaaaaag gagcattcaa ctttgaccag gaaacagtga tcaaccaga gacgggagag  
720  
cagattcaga gctgggtatcg gagcggggag acctgggata gcaagttcag caccatcgcc  
780  
tccagctacg aagagtgccg ggctgagagc gtgggtctct acctctgtct ccacccgcaa  
840  
gtgctggaga tctttggctt tgagggggct gatgaggagg acgtgatcta cgtgaactgg  
900  
ctcaacatgg ttcgggcccgg gctgctcgct ctggagttct acacacctga ggccttcaac  
960  
tggcgacagg cccatattga ggcccgggtt gtgacctga gagtcttgct ggaggctggc  
1020  
gagggactcg ttaccatcac tcccaccaca ggctccgatg ggcgcccaga tgcccgggtc  
1080  
cgcctcgacc gcagcaagat ccgggtctgtg ggcaagcctg ctctagagcg ctctctgagg  
1140  
agacttcagg tgctgaagtc cacaggggat gtggccggag ggcgggacct gtacgagggg  
1200  
tatgcaacgg tcaactgatgc gccccccgag tgcttctctca ccctcagga cagggtgctg  
1260  
ctgcgtaagg aatctcgga gctcattgtt cagcccaaca ctgccttga aggtaatggc  
1320  
tcagacgtgc agcttctgga atacgaggcg tcagctgctg gcctcatccg atccttctct  
1380  
gagcgtttcc cagaggatgg acccgagttg gaggagatcc tcacacagct ggccacagcc  
1440  
gatgcccgat tctggaaggg cccagtgag gcccattctg gccaagcttg aggaagatgt  
1500  
gtggccttgc cccattcca tcagaccaag gctgcaagtg gccctccacg tgtgtgtatt  
1560  
taggggtggg gagggggagg ggcaggagct tggaccttg tactacctca gctgaggggtg  
1620  
gtgnacacaa ccccttccat ttgtcagcac tttccagcct gccaatgtct tcccctctgt  
1680  
gatcatttca tctgcactgc catacgtgga gtgagcaaga cagggttac catcctgtct  
1740  
accagatgag gaaatggcag ttctgagaag tcaactggtct agatcccga ggtggcacgt  
1800  
gacagctagg gttcaaaacg ttctaccaa atccaatgct cctcacatat taattttata  
1860  
accagacaaa taaatattag agacaaccac catcaaaaaa aaa  
1903

&lt;210&gt; 3596

&lt;211&gt; 496

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3596

Phe Gln Val Thr Arg Gly Asp Tyr Ala Pro Ile Leu Gln Lys Val Val

1	5	10	15
Glu Gln Leu Glu Lys Ala Lys Ala Tyr Ala Ala Asn Ser His Gln Gly			
20	25	30	
Gln Met Leu Ala Gln Tyr Ile Glu Ser Phe Thr Gln Gly Ser Ile Glu			
35	40	45	
Ala His Lys Arg Gly Ser Arg Phe Trp Ile Gln Asp Lys Gly Pro Ile			
50	55	60	
Val Glu Ser Tyr Ile Gly Phe Ile Glu Ser Tyr Arg Asp Pro Phe Gly			
65	70	75	80
Ser Arg Gly Glu Phe Glu Gly Phe Val Ala Val Val Asn Lys Ala Met			
85	90	95	
Ser Ala Lys Phe Glu Arg Leu Val Ala Ser Ala Glu Gln Leu Leu Lys			
100	105	110	
Glu Leu Pro Trp Pro Pro Thr Phe Glu Lys Asp Lys Phe Leu Thr Pro			
115	120	125	
Asp Phe Thr Ser Leu Asp Val Leu Thr Phe Ala Gly Ser Gly Ile Pro			
130	135	140	
Ala Gly Ile Asn Ile Pro Asn Tyr Asp Asp Leu Arg Gln Thr Glu Gly			
145	150	155	160
Phe Lys Asn Val Ser Leu Gly Asn Val Leu Ala Val Ala Tyr Ala Thr			
165	170	175	
Gln Arg Glu Lys Leu Thr Phe Leu Glu Asp Asp Lys Asp Leu Tyr			
180	185	190	
Ile Leu Trp Lys Gly Pro Ser Phe Asp Val Gln Val Gly Leu His Glu			
195	200	205	
Leu Leu Gly His Gly Ser Gly Lys Leu Phe Val Gln Asp Glu Lys Gly			
210	215	220	
Ala Phe Asn Phe Asp Gln Glu Thr Val Ile Asn Pro Glu Thr Gly Glu			
225	230	235	240
Gln Ile Gln Ser Trp Tyr Arg Ser Gly Glu Thr Trp Asp Ser Lys Phe			
245	250	255	
Ser Thr Ile Ala Ser Ser Tyr Glu Glu Cys Arg Ala Glu Ser Val Gly			
260	265	270	
Leu Tyr Leu Cys Leu His Pro Gln Val Leu Glu Ile Phe Gly Phe Glu			
275	280	285	
Gly Ala Asp Ala Glu Asp Val Ile Tyr Val Asn Trp Leu Asn Met Val			
290	295	300	
Arg Ala Gly Leu Leu Ala Leu Glu Phe Tyr Thr Pro Glu Ala Phe Asn			
305	310	315	320
Trp Arg Gln Ala His Met Gln Ala Arg Phe Val Ile Leu Arg Val Leu			
325	330	335	
Leu Glu Ala Gly Glu Gly Leu Val Thr Ile Thr Pro Thr Thr Gly Ser			
340	345	350	
Asp Gly Arg Pro Asp Ala Arg Val Arg Leu Asp Arg Ser Lys Ile Arg			
355	360	365	
Ser Val Gly Lys Pro Ala Leu Glu Arg Phe Leu Arg Arg Leu Gln Val			
370	375	380	
Leu Lys Ser Thr Gly Asp Val Ala Gly Gly Arg Ala Leu Tyr Glu Gly			
385	390	395	400
Tyr Ala Thr Val Thr Asp Ala Pro Pro Glu Cys Phe Leu Thr Leu Arg			
405	410	415	
Asp Thr Val Leu Arg Lys Glu Ser Arg Lys Leu Ile Val Gln Pro			
420	425	430	
Asn Thr Arg Leu Glu Gly Asn Gly Ser Asp Val Gln Leu Leu Glu Tyr			

	435		440		445	
Glu	Ala	Ser	Ala	Ala	Gly	Leu
	450		455		460	
Glu	Asp	Gly	Pro	Glu	Leu	Glu
465			470		475	
Asp	Ala	Arg	Phe	Trp	Lys	Gly
	485		490		495	

&lt;210&gt; 3597

&lt;211&gt; 1090

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3597

```

nccatggaag ggctggagga ggagaggcc aactgctccg tggcggtcgc tgaggctcag
60
agatgggtgg aggcagtaac agagaagaat tttgaaacaa aagattttcg agcctctcta
120
gaaaatggtg ttctgctgtg tgatttgatt aataagctta aacctggcgt cattaagaag
180
atcaatagac tgtctacacc aatagcagga ttggataata taaacgtttt cttgaaagct
240
tgtgaacaga ttggattgaa agaagcccag cttttccatc ctggagatct acaggattta
300
tcaaatcgag tcaactgtcaa gcaagaagag actgacagga gaggtaaaaa tgttttgata
360
acattgtact ggctgggaag aaaagcacia agcaaccgtt actataatgg tccccatctt
420
aatttgaaag cgtttgagaa tcttttagga caagcactga cgaaggcact cgaagactcc
480
agcttcctga aaagaagtgg cagggacagt ggctacggtg acatctggtg tcctgaacgt
540
ggagaatttc ttgctcctcc aaggcaccat aagagagaag attcctttga aagcttggac
600
tctttgggct cgaggtcatt gacaagctgc tcctctgata tcacgttgag aggggggctg
660
gaagggtttg aaagtgcacac agattcggaa ttacattca agatgcagga ttataataaa
720
gatgatgtgt cgtatcgaag gatttcggct gttgagccaa agactgcgtt acccttcaat
780
cgttttttac ccaacaaaag tagacagcca tcctatgtac cagcacctct gagaaagaaa
840
aagccagaca aacatgagga taacagaaga agttgggcaa gcccggttta tacagaagca
900
gatggaacat tttcaaggag taagtccatg agtgatgtca gcgcagaaga tgttcaaaac
960
ttgcgtcagc tgcgttacga ggagatgcag aaaataaaat caaattaaa agaacaagat
1020
cagaaatggc aggatgacct tgcaaaatgg aaagatcgtc gaaaaagtta cacttcagat
1080
ctgcagaaga
1090

```

&lt;210&gt; 3598

<211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 3598  
 Arg Ser Leu Thr Ser Cys Ser Ser Asp Ile Thr Leu Arg Gly Gly Arg  
 1 5 10 15  
 Glu Gly Phe Glu Ser Asp Thr Asp Ser Glu Phe Thr Phe Lys Met Gln  
 20 25 30  
 Asp Tyr Asn Lys Asp Asp Met Ser Tyr Arg Arg Ile Ser Ala Val Glu  
 35 40 45  
 Pro Lys Thr Ala Leu Pro Phe Asn Arg Phe Leu Pro Asn Lys Ser Arg  
 50 55 60  
 Gln Pro Ser Tyr Val Pro Ala Pro Leu Arg Lys Lys Lys Pro Asp Lys  
 65 70 75 80  
 His Glu Asp Asn Arg Arg Ser Trp Ala Ser Pro Val Tyr Thr Glu Ala  
 85 90 95  
 Asp Gly Thr Phe Ser Arg Ser Lys Ser Met Ser Asp Val Ser Ala Glu  
 100 105 110  
 Asp Val Gln Asn Leu Arg Gln Leu Arg Tyr Glu Glu Met Gln Lys Ile  
 115 120 125  
 Lys Ser Gln Leu Lys Glu Gln Asp Gln Lys Trp Gln Asp Asp Leu Ala  
 130 135 140  
 Lys Trp Lys Asp Arg Arg Lys Ser Tyr Thr Ser Asp Leu Gln Lys  
 145 150 155

<210> 3599  
 <211> 691  
 <212> DNA  
 <213> Homo sapiens

<400> 3599  
 gtgcacatcc tcatgggctc ctgttacaag accaaaaaat tctgctctc cctggcagaa  
 60  
 aacaagctgg gtccctgcat gctcctggca ctgaggggga accagaccat ggtggaggta  
 120  
 aggagctggt cggggtcctt ggtgggggtg ctggctcccc gtcccttgct cgtgccgata  
 180  
 gagcatctgc tgggagccaa gaactgctgc aggcacgggg ggcagtgggt gaggcgtgca  
 240  
 gtcccagccg tctgagctt agtgggagcc tcgagccttc atcatgcagt gtatttgttt  
 300  
 ctgttgatg ccagctgac cattgatcag tgggggttggg gacgcttctg ttctgctcat  
 360  
 ttattgctgt gtaacaaacc acctctaagt gagggcttta aaacaagatc gttcatttct  
 420  
 tttgcacatg ggcattgggg tacctgggcg cagctacgca cttctcacct ggggcctcat  
 480  
 cagtcagatg gggccagggt gggttagccc caaggcttct cgcattggcc taagaggcct  
 540  
 cagacaatga gggctttggc ggctggggct cccagcgcac acccttcacc tcgtggcctc  
 600  
 caggtagcct gtccacctgc caagaacaca cacaccagc cccacaggtc acccctcacc  
 660

tgctgctgct cctctctctc cctgcacgcg t  
691

<210> 3600

<211> 98

<212> PRT

<213> Homo sapiens

<400> 3600

Met	Gly	Ser	Cys	Tyr	Lys	Thr	Lys	Lys	Phe	Leu	Leu	Ser	Leu	Ala	Glu
1				5					10					15	
Asn	Lys	Leu	Gly	Pro	Cys	Met	Leu	Leu	Ala	Leu	Arg	Gly	Asn	Gln	Thr
		20						25					30		
Met	Val	Glu	Val	Arg	Ser	Trp	Ser	Gly	Ser	Leu	Val	Gly	Trp	Leu	Ala
		35					40					45			
Pro	Arg	Pro	Leu	Ser	Val	Pro	Ile	Glu	His	Leu	Leu	Gly	Ala	Lys	Asn
		50				55					60				
Cys	Cys	Arg	His	Gly	Gly	Gln	Trp	Val	Arg	Arg	Ala	Val	Pro	Ala	Val
65				70					75				80		
Leu	Ser	Leu	Val	Gly	Ala	Ser	Ser	Leu	His	His	Ala	Val	Tyr	Leu	Phe
				85					90					95	
Leu	Leu														

<210> 3601

<211> 2963

<212> DNA

<213> Homo sapiens

<400> 3601

cgatcctccc acctcagcct cccaaagggc tgagattaca ggtgtgagcc ccgaatccg  
60  
gtgtgcactg ctgtttactt agtatttttc tttaactaga tttattttta aacaaggctt  
120  
tgtccaagga catttggtc gcaggcacag agctgattaa ctcgttatgt atcttttgat  
180  
aataaggcag cgatcattaa gaaaaacgtg tagccaatga aataacatgt tctgggcccc  
240  
accactggac tgggaggtgc agcgcaccca agcagaggct gcctcctgcc ctccacgcct  
300  
gctgctctcg caggcagggg ctctgctgct tacagcagtg cggccatctc ggcttctctc  
360  
cacatcgtct gtcacgcgct ggtccccacc atacctctcg ccaccccgct cctctgtccc  
420  
cgtgcggcct gaggagctcc agctttccct gccagcgggt ctctgggagt ggggacgtga  
480  
tgcagggcga gcatgatgca acggggcacc ccagaccctt ccctcccgtg gggggagggg  
540  
tgtggcacgc agagggggcag agggcgggga cactggcccc gtgggggaag aaggtgctgt  
600  
cacagccgtt actgtcccc gtgggacccc agcctggagc ccccatcct ttggctcctg  
660  
cctgtggcca ctacgtctc aggtggccac atgcacatcc cctgctcctt ccctgcgcac  
720

ctgccctgcc cagtggcctt tctgggtccca gctactgaaa ccggtgagct gctccagggg  
780  
gaggctgctt tctgggtcct ggtgtatttg gacacagata ggcccttagt gtccagaggg  
840  
gccccatgca gccctcatgg tcagcaggac acccaggata gacccccctcc acgcagcacc  
900  
tggggccctgg gagcggtgc ttttaggatg ccacctgttc ctggggcgct tgttttttagc  
960  
ttctgacctg aagatgagcg ggggagcgcg gtggcgaggg cacgtgggcg tggctcacgg  
1020  
tctcctctct gtggcaggta catgtcccag agcaagcaca cggaggcccc ggagctcatg  
1080  
tactcgggag ccctgctctt cttcagccat ggccagcaaa acagtgcagc agacttgtcc  
1140  
atgctggtcc tggagtccct ggagaaggcg gaagtggagg tggctgacga gctgctggaa  
1200  
aatctggcta aagtgttcag cctgatggac cccaactctc ctgagcgctg gacctttgtg  
1260  
tccagagccc tgaagtggte cagtgggggc tccgggaagc tggggccacc ccggtgcac  
1320  
cagctgctgg ccctcaccct gtggaaagaa caaaactatt gtgagtcgag gtatcatttt  
1380  
ctgcactcag cggacgggga gggtgtgcc aacatgctgg tggagtattc cacgtcccg  
1440  
ggcttccgca gcgagggtga catgttcgtg gcccaggccg tgetacagtt tctctgttta  
1500  
aaaaacaaaa gttagcgcac ggtggtcttc acgacgtaca cccagaagca cccgtccac  
1560  
gaggacgggc tccggtttgt ggagccgctg cttaacttca tctggttcct gctgctggct  
1620  
gtggacgggtg ggaagctgac ggtgttcact gtgctgtgtg agcagtacca gccatccctc  
1680  
cggcgggacc ccatgtacaa cgagtacctc gaccgcatag gacagctgtt cttcggcgct  
1740  
ccgccaagc agacgtcttc ctacgggggc ctgctcggga accttctgac cagcctcatg  
1800  
ggctcctcag agcaggagga tggggaggag agccccagcg acggcagccc catcgagctg  
1860  
gactgaactg gccaggccac gtggagacac cacggtcgac gacggctgga gggacgtttc  
1920  
agaggcgagt cctgggtggc tcctcgctt gggggctcct ggccctgagg ctggcggtgg  
1980  
ccgctgccc gcgcgtgtct gtttctgtgc ggcggtcag ggtggcgcg ctgctgtca  
2040  
ctgtgctgct gggacccaag agtggggcgt cggccctgct ggccgcccgc tccccgaga  
2100  
ttgaccaca ataaagcaca ggccctaccg cggcgctacc ctctccact cctttgttct  
2160  
gggtcctttc gggagggctg atgggcagca caggaggccc gtctcgggg ggctgcgcac  
2220  
atcacgctcc ttgccggcg tccggcacag ctgcggtcac caaagcaggt gctggccctc  
2280  
ggactgaga gcccagccag ggcccatgtg gtctgcaaat gggagcggct gtttttgaac  
2340



acgggggtcat tctgcagtca ggacgaaccg gtccccgtcg cagacggagt gcacgtgccc  
 2400  
 tgcgccacat cctcacgctc ggtggagggg cgcggtgcggc gggacgggtgc ctacgggtac  
 2460  
 ttgcagctgt gtcccatgtg gcaccccaga gctgcgcctt gctggtctct gtgagcgcca  
 2520  
 cgctgctgtg ctggaaatgc cgctttaaaa agggataccg tgggactctg cccgtctctt  
 2580  
 tcataacgca atattttattt gtattgggtg acgattgatt ctttcgacct aacattttgg  
 2640  
 gttttaacca aataaccggt ccaggagtga gcagctccgt tctgtcagat gctactccaa  
 2700  
 atgttaccag aacgatgaca aaaggggaga cgctctatct tttcacagtt aaatgacagt  
 2760  
 tgtagattga tacgcagttg tgcattggaa ggggaaacgc acagctttat ttactgtaaa  
 2820  
 gtggaatttc aggaaggctt gtgtgaaccg ttgcgcataa ataaaccctt tctaccgggc  
 2880  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2940  
 aaaaaaaaaa aaaaaaaaaa aaa  
 2963

<210> 3602

<211> 299

<212> PRT

<213> Homo sapiens

<400> 3602

Pro	Glu	Asp	Glu	Arg	Gly	Ser	Ala	Val	Ala	Arg	Ala	Arg	Gly	Arg	Gly
1				5					10				15		
Ser	Arg	Ser	Pro	Leu	Cys	Gly	Arg	Tyr	Met	Ser	Gln	Ser	Lys	His	Thr
			20					25					30		
Glu	Ala	Arg	Glu	Leu	Met	Tyr	Ser	Gly	Ala	Leu	Leu	Phe	Ser	His	
			35					40				45			
Gly	Gln	Gln	Asn	Ser	Ala	Ala	Asp	Leu	Ser	Met	Leu	Val	Leu	Glu	Ser
			50				55				60				
Leu	Glu	Lys	Ala	Glu	Val	Glu	Val	Ala	Asp	Glu	Leu	Leu	Glu	Asn	Leu
					70					75				80	
Ala	Lys	Val	Phe	Ser	Leu	Met	Asp	Pro	Asn	Ser	Pro	Glu	Arg	Val	Thr
					85					90				95	
Phe	Val	Ser	Arg	Ala	Leu	Lys	Trp	Ser	Ser	Gly	Gly	Ser	Gly	Lys	Leu
			100					105					110		
Gly	His	Pro	Arg	Leu	His	Gln	Leu	Leu	Ala	Leu	Thr	Leu	Trp	Lys	Glu
			115				120					125			
Gln	Asn	Tyr	Cys	Glu	Ser	Arg	Tyr	His	Phe	Leu	His	Ser	Ala	Asp	Gly
			130				135				140				
Glu	Gly	Cys	Ala	Asn	Met	Leu	Val	Glu	Tyr	Ser	Thr	Ser	Arg	Gly	Phe
					150					155				160	
Arg	Ser	Glu	Val	Asp	Met	Phe	Val	Ala	Gln	Ala	Val	Leu	Gln	Phe	Leu
					165					170				175	
Cys	Leu	Lys	Asn	Lys	Ser	Ser	Ala	Ser	Val	Val	Phe	Thr	Thr	Tyr	Thr
					180				185				190		
Gln	Lys	His	Pro	Ser	Ile	Glu	Asp	Gly	Pro	Pro	Phe	Val	Glu	Pro	Leu

195	200	205
Leu Asn Phe Ile Trp Phe	Leu Leu Leu Ala Val	Asp Gly Gly Lys Leu
210	215	220
Thr Val Phe Thr Val Leu	Cys Glu Gln Tyr Gln	Pro Ser Leu Arg Arg
225	230	235
Asp Pro Met Tyr Asn Glu	Tyr Leu Asp Arg Ile	Gly Gln Leu Phe Phe
245	250	255
Gly Val Pro Pro Lys Gln	Thr Ser Ser Tyr Gly	Gly Leu Leu Gly Asn
260	265	270
Leu Leu Thr Ser Leu Met	Gly Ser Ser Glu Gln	Glu Asp Gly Glu Glu
275	280	285
Ser Pro Ser Asp Gly Ser	Pro Ile Glu Leu Asp	
290	295	

<210> 3603  
 <211> 1082  
 <212> DNA  
 <213> Homo sapiens

<400> 3603  
 nnagctcctg cggaaccgat ctcaagcaca aggacaagca ggaaaacggc gagaggactg  
 60  
 gaggggtgcc tctgatcaaa gcccacaaga gagaaacacc agatgaaaat ggtaaaaccc  
 120  
 agagagccga tgatttttaa atgtgtgttt gtgggtgaaa tggctgcgca ggtcggagcg  
 180  
 gtgcgcgtag tacgggcggt ggcggcgcag gaggagccgg acaaagaggg gaaggagaaa  
 240  
 cctcatgctg gggctctccc gcggggagtt aaacggcagc gccgatctag cagtgggggg  
 300  
 tctcaggaga agcgggggcg gccgagccag gagccccctc tcgctcccc tcaccggcgg  
 360  
 cgtgcagcc gccaacatcc tgggcccgtg ccgccaacga atgcagcccc aactgtccca  
 420  
 ggccctgttg agcctcttct cctgccgect ccgcccacac ctctcgtggc acccgcggg  
 480  
 cccgctgtcg ctgccccctc cccggcccca agcaccgggc cctcttcacc ttctcgctc  
 540  
 tgacggtgag cgcgccggg cccaagcata agggccacaa ggagcggcac aagcaccatc  
 600  
 accaccggcg ccccgatggt gatcccagct cctgcggaac cgatctcaag cacaaggaca  
 660  
 agcaggaaaa cggcgagagg actggagggg tgcctctgat caaagcccc aagagagaaa  
 720  
 caccagatga aaatggtaaa acccagagag ccgatgattt tgtcttgaag aaaataaaga  
 780  
 agaaaaagaa aaagaaacac cgagaagaca tgcgaggaag acgccttaaa atgtacaata  
 840  
 aggaagtaca aaccgtctgt gctggcctga cccgcatcag taaagaaatt ctcacccaag  
 900  
 gacaaataaa tagcacttca ggacttaata aggagtcctt caggtatctg aaagatgaac  
 960  
 agctgtgccg attaaatttg ggtatgcaag aatatcgggt accccagga gtacaaacac  
 1020

cttttatgac tcaccaggaa cattctattc gtagaaattt cttaaaaaaca ggtactaaat  
 1080  
 tt  
 1082

<210> 3604  
 <211> 146  
 <212> PRT  
 <213> Homo sapiens

<400> 3604  
 Met Lys Met Val Lys Pro Arg Glu Pro Met Ile Phe Lys Cys Val Phe  
 1 5 10 15  
 Val Gly Glu Met Ala Ala Gln Val Gly Ala Val Arg Val Val Arg Ala  
 20 25 30  
 Val Ala Ala Gln Glu Glu Pro Asp Lys Glu Gly Lys Glu Lys Pro His  
 35 40 45  
 Ala Gly Val Ser Pro Arg Gly Val Lys Arg Gln Arg Arg Ser Ser Ser  
 50 55 60  
 Gly Gly Ser Gln Glu Lys Arg Gly Arg Pro Ser Gln Glu Pro Pro Leu  
 65 70 75 80  
 Ala Pro Pro His Arg Arg Arg Arg Ser Arg Gln His Pro Gly Pro Leu  
 85 90 95  
 Pro Pro Thr Asn Ala Ala Pro Thr Val Pro Gly Pro Val Glu Pro Leu  
 100 105 110  
 Leu Leu Pro Pro Pro Pro Pro Ser Leu Ala Pro Ala Gly Pro Ala  
 115 120 125  
 Val Ala Ala Pro Leu Pro Ala Pro Ser Thr Arg Pro Ser Ser Pro Ser  
 130 135 140  
 Arg Leu  
 145

<210> 3605  
 <211> 2004  
 <212> DNA  
 <213> Homo sapiens

<400> 3605  
 nggcggcggc gatggccgag caggaggcgc cccgcaacgg cggcccaacc gcggggcgtc  
 60  
 cagcgtgtgg agggcaagct gcgcgccagc gtcgagaagg gcgactacta cgaggcgcac  
 120  
 cagatgtacc ggaccctgtt cttcaggtac atgtcccaga gcaagcacac ggaggcccgg  
 180  
 gagctcatgt actcgggagc cctgctcttc ttcagccatg gccagcaaaa cagtgcagca  
 240  
 gacttggtcca tgctgggtcct ggagtccttg gagaaggcgg aagtggaggt ggctgacgag  
 300  
 ctgctggaaa atctggctaa agtggtcagc ctgatggacc ccaactctcc tgagcgcgtg  
 360  
 acctttgtgt ccagagccct gaagtgtcc agtgggggct ccgggaagct gggccacccc  
 420  
 cggctgcacc agctgctggc cctcaccctg tggaaagaac aaaactattg tgagtcgagg  
 480

tatcattttc tgcactcagc ggacggggag ggctgtgcca acatgctggg ggagtattcc  
540  
acgtcccgcg gcttccgcag cgagggtggac atgttcgtgg ctcaggccgt gctacagttt  
600  
ctctgtttta aaaacaaaag tagcgcatcg gtggtcttca cgacgtacac ccagaagcac  
660  
ccgtccatcg aggacggggc tccgtttgtg gagccgctgc ttaacttcat ctggttcctg  
720  
ctgctggctg tggacgggtg gaagctgacg gtgttcaactg tgctgtgtga gcagtaccag  
780  
ccatccctcc ggcgggaccc catgtacaac gactacctcg accgcatagg acagctgttc  
840  
ttcggcgctc cgcccaagca gacgtcttcc tacggggggc tgctcgggaa ctttctgacc  
900  
agcctcatgg gtcctcaga gcaggaggat ggggaggaga gcccagcga cggcagcccc  
960  
atcgagctgg actgaactgg ccaggccacg tggagacacc acggtcgacg acggctggag  
1020  
ggacgtttca gaggcgagtc ctgggtggct cctcgccttg ggggctcctg gccctgaggg  
1080  
tggcggtggc cgcgtgccg cgctgtctg tttctgtgcg gcggctcagg gtggcgcggc  
1140  
tgctgtcac tgtgtgtctg ggaccaaga gtggggcgtc gccctgtctg gccgcccgt  
1200  
ccccgagat tgaccacaa taaagcacag gccttaccgc ggcgtcacc tctcccactc  
1260  
ctttgttctg ggtcctttcg ggagggtga tgggcagcac aggaggcccg tctcggggg  
1320  
gctgcgcaca tcacgtcct tgcggggcgt ccggcacagc tgcggtcacc aaagcaggtg  
1380  
ctggccctcg gacctgagag ccagccagg gcccatgtgg tctgcaaatg ggagcggctg  
1440  
ttttgaaca cggggtcatt ctgcagtcag gacgaaccgg tccccgtgc agacggagtg  
1500  
cacgtgccct gcgccacatc ctcacgctcg gtggaggagc gcgtgcggcg ggacggtgcc  
1560  
tacgggtact tgcagctgtg tcccatgtgg catcccagag ctgcgccctg ctggtctctg  
1620  
tgagcgccac gctgctgtgc tggaaatgcc gctttaaaaa gggataccgt gggactctgc  
1680  
ccgtctcttt cataacgcaa tatttatttg tattgggtga cgattgatc tttcgaccta  
1740  
acattttggg ttttaaccaa ataaccggtc caggagttag cagctccgtt ctgtcagatg  
1800  
ctactccaaa tgttaccaga acgatgacaa aaggggagac gctctatttt ttcacagtta  
1860  
aatgacagtt gtagattgat acgcagttgt gcatgggaag gggaaacgca cagctttatt  
1920  
tactgtaaag tgaatttca ggaaggcttg tgtgaaccgt tgcgcataaa taaacccttt  
1980  
ctaccgggca aaaaaaaaaa aaaa  
2004

&lt;210&gt; 3606

&lt;211&gt; 324

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3606

```

Xaa Arg Arg Arg Trp Pro Ser Arg Arg Ala Pro Ala Thr Ala Ala Gln
 1           5           10           15
Pro Arg Gly Val Gln Arg Val Glu Gly Lys Leu Arg Ala Ser Val Glu
      20           25           30
Lys Gly Asp Tyr Tyr Glu Ala His Gln Met Tyr Arg Thr Leu Phe Phe
      35           40           45
Arg Tyr Met Ser Gln Ser Lys His Thr Glu Ala Arg Glu Leu Met Tyr
      50           55           60
Ser Gly Ala Leu Leu Phe Phe Ser His Gly Gln Gln Asn Ser Ala Ala
      65           70           75           80
Asp Leu Ser Met Leu Val Leu Glu Ser Leu Glu Lys Ala Glu Val Glu
      85           90           95
Val Ala Asp Glu Leu Leu Glu Asn Leu Ala Lys Val Phe Ser Leu Met
      100          105          110
Asp Pro Asn Ser Pro Glu Arg Val Thr Phe Val Ser Arg Ala Leu Lys
      115          120          125
Trp Ser Ser Gly Gly Ser Gly Lys Leu Gly His Pro Arg Leu His Gln
      130          135          140
Leu Leu Ala Leu Thr Leu Trp Lys Glu Gln Asn Tyr Cys Glu Ser Arg
      145          150          155          160
Tyr His Phe Leu His Ser Ala Asp Gly Glu Gly Cys Ala Asn Met Leu
      165          170          175
Val Glu Tyr Ser Thr Ser Arg Gly Phe Arg Ser Glu Val Asp Met Phe
      180          185          190
Val Ala Gln Ala Val Leu Gln Phe Leu Cys Leu Lys Asn Lys Ser Ser
      195          200          205
Ala Ser Val Val Phe Thr Thr Tyr Thr Gln Lys His Pro Ser Ile Glu
      210          215          220
Asp Gly Pro Pro Phe Val Glu Pro Leu Leu Asn Phe Ile Trp Phe Leu
      225          230          235          240
Leu Leu Ala Val Asp Gly Gly Lys Leu Thr Val Phe Thr Val Leu Cys
      245          250          255
Glu Gln Tyr Gln Pro Ser Leu Arg Arg Asp Pro Met Tyr Asn Glu Tyr
      260          265          270
Leu Asp Arg Ile Gly Gln Leu Phe Phe Gly Val Pro Pro Lys Gln Thr
      275          280          285
Ser Ser Tyr Gly Gly Leu Leu Gly Asn Leu Leu Thr Ser Leu Met Gly
      290          295          300
Ser Ser Glu Gln Glu Asp Gly Glu Glu Ser Pro Ser Asp Gly Ser Pro
      305          310          315          320
Ile Glu Leu Asp

```

&lt;210&gt; 3607

&lt;211&gt; 1726

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3607

nacgcgtcgt gggagttggt ggacccacaca ccggacttgc aggcactggt tgttcagttt  
60  
aacgaccaat tcttctgggg ccagctggag gccgtcgagg tgaagtggag cgtgcgaatg  
120  
accctgtgtg ctgggatatg cagctatgaa gggaaaggtg gaatgtgttc catccgtctc  
180  
agcgaacccc ttttgaagtt gaggccaaaga aaggatcttg tagagaccct cctgcatgaa  
240  
atgatacatg cctattttatt tgtcactaat aacgacaaag accgagaagg gcatgggtcca  
300  
gaattttgta aacatatgca tcgcatcaac agcctgactg gagccaatat aacggtatac  
360  
catacttttc acgatgaggt ggatgagtat cggcgacact ggtggcgctg caatggggccg  
420  
tgccagcaca ggccaccgta ttacggctat gtcaaacgag ctactaacag ggaaccctct  
480  
gctcatgact attggtgggc tgagcaccag aaaacctgtg gaggcactta cataaaaaatc  
540  
aaggaaccag agaattactc aaaaaaaggc aaaggaaagg caaaactagg aaaggaaacca  
600  
gtattggccg cagagaataa agataaacc c aacagaggtg aggccagct agtaatccct  
660  
tttagtggga aaggatatgt tctaggagaa acaagcaatt taccttcacc tgggaaactg  
720  
atcacttcac atgccattaa taaaacccaa gatcttttaa atcaaaacca ttcagcaa  
780  
gctgtaagac ctaattctaa aatcaagggtg aaatttgaac agaatggttc aagtaaaaat  
840  
tctcatctgg tctccctgc tgtagtaac agtcacaaa atgttctaag caactacttt  
900  
cctagagtat catttgccaa ccaaaaggct ttcagaggtg tgaatggatc tccaaggata  
960  
agtgtaacag ttggcaacat ccctaaaaac tcagtctctt ctagttctca gagaagggtt  
1020  
tcattctcta agatatccct aagaaattct tcaaaagtaa cggaatcagc atctgtgatg  
1080  
ccatcccagg atgtgagtggt gtctgaagat acattcccaa ataaacgacc taggctagaa  
1140  
gataagactg tttttgacaa tttttttatc aagaaagagc aaataaaaag cagtggtaat  
1200  
gatccaaagt atagtacaac cacagctcag aattccagca gttcatccag tcagagcaaa  
1260  
atgggttaatt gccagtttg tcagaatgaa gttctgggag tctcagatta atgagcactt  
1320  
ggactggtgc cttgaagggtg acagcatcaa agtcaaaagc gaagaaagtc tttgaaaaag  
1380  
gtttcaaagt ctcaagtacc acctgtatta tctcactaat gtgctatgtc agccagtcag  
1440  
gaagttctgg ttaatactaa gattttagg ttataatcta gttcacataa ccaatagaaa  
1500  
gtgtcctatt ttatatatac gcatataaga ttgtaatttt aagatgtttt gtgtctcagg  
1560  
gtgtacatt cactcttgcc ttaggtatac tgtaaccag gttctgctg tctgtataa  
1620

tttttagata cttttgttct ttcttgcctc taaggatttt aaaaacctgt taatcttttt  
 1680.  
 atttgataac tttcctaaaa atattcatat ggggaatcct gtcaaa  
 1726

<210> 3608

<211> 436

<212> PRT

<213> Homo sapiens

<400> 3608

Xaa	Ala	Ser	Trp	Glu	Leu	Val	Asp	Pro	Thr	Pro	Asp	Leu	Gln	Ala	Leu
1				5					10					15	
Phe	Val	Gln	Phe	Asn	Asp	Gln	Phe	Phe	Trp	Gly	Gln	Leu	Glu	Ala	Val
		20						25					30		
Glu	Val	Lys	Trp	Ser	Val	Arg	Met	Thr	Leu	Cys	Ala	Gly	Ile	Cys	Ser
		35					40					45			
Tyr	Glu	Gly	Lys	Gly	Gly	Met	Cys	Ser	Ile	Arg	Leu	Ser	Glu	Pro	Leu
	50					55					60				
Leu	Lys	Leu	Arg	Pro	Arg	Lys	Asp	Leu	Val	Glu	Thr	Leu	Leu	His	Glu
65					70					75				80	
Met	Ile	His	Ala	Tyr	Leu	Phe	Val	Thr	Asn	Asn	Asp	Lys	Asp	Arg	Glu
			85						90					95	
Gly	His	Gly	Pro	Glu	Phe	Cys	Lys	His	Met	His	Arg	Ile	Asn	Ser	Leu
			100					105					110		
Thr	Gly	Ala	Asn	Ile	Thr	Val	Tyr	His	Thr	Phe	His	Asp	Glu	Val	Asp
		115					120					125			
Glu	Tyr	Arg	Arg	His	Trp	Trp	Arg	Cys	Asn	Gly	Pro	Cys	Gln	His	Arg
	130					135					140				
Pro	Pro	Tyr	Tyr	Gly	Tyr	Val	Lys	Arg	Ala	Thr	Asn	Arg	Glu	Pro	Ser
145					150					155				160	
Ala	His	Asp	Tyr	Trp	Trp	Ala	Glu	His	Gln	Lys	Thr	Cys	Gly	Gly	Thr
			165						170					175	
Tyr	Ile	Lys	Ile	Lys	Glu	Pro	Glu	Asn	Tyr	Ser	Lys	Lys	Gly	Lys	Gly
			180					185					190		
Lys	Ala	Lys	Leu	Gly	Lys	Glu	Pro	Val	Leu	Ala	Ala	Glu	Asn	Lys	Asp
		195					200					205			
Lys	Pro	Asn	Arg	Gly	Glu	Ala	Gln	Leu	Val	Ile	Pro	Phe	Ser	Gly	Lys
	210					215					220				
Gly	Tyr	Val	Leu	Gly	Glu	Thr	Ser	Asn	Leu	Pro	Ser	Pro	Gly	Lys	Leu
225					230					235				240	
Ile	Thr	Ser	His	Ala	Ile	Asn	Lys	Thr	Gln	Asp	Leu	Leu	Asn	Gln	Asn
			245						250					255	
His	Ser	Ala	Asn	Ala	Val	Arg	Pro	Asn	Ser	Lys	Ile	Lys	Val	Lys	Phe
			260					265					270		
Glu	Gln	Asn	Gly	Ser	Ser	Lys	Asn	Ser	His	Leu	Val	Ser	Pro	Ala	Val
		275					280					285			
Ser	Asn	Ser	His	Gln	Asn	Val	Leu	Ser	Asn	Tyr	Phe	Pro	Arg	Val	Ser
	290					295					300				
Phe	Ala	Asn	Gln	Lys	Ala	Phe	Arg	Gly	Val	Asn	Gly	Ser	Pro	Arg	Ile
305					310					315				320	
Ser	Val	Thr	Val	Gly	Asn	Ile	Pro	Lys	Asn	Ser	Val	Ser	Ser	Ser	Ser
			325						330					335	
Gln	Arg	Arg	Val	Ser	Ser	Ser	Lys	Ile	Ser	Leu	Arg	Asn	Ser	Ser	Lys

```

<400> 3609
ntcttgcaact taagttgccc ttgaagatgg ttntgccttg ggccctggaac cccgagggag
60
ttcagcttca ccaaatac ccaagctttc cgtgcactga gagacatgct ggccgtggcc
120
tgcgtcaacc agtgggagca gctgaggggg ccgggtggca acgaggatgg gccacagaag
180
ctggacttgg aagctgatgc tgagcccaa gacctcgaga gtacgaacct cttggagagt
240
gaagctccca gggactatct cctcaagttt gcctatatgt tggatttga cagcgacaca
300
gcagacaagt tcctgcagct gntttggaac caaagggtgc aagaggggtgc tgtgtcctat
360
caannctacc ccttgtcgcc caccgccttc acccattgtg agcagggtgct gggcgaggggt
420
gccctggacc gaggcacctt ctactgggag gtggagatta tcgagggctg ggtcagcatg
480
ggggtcattg ccgcagaact ctccccacaa gagccctacg accgcggccg gctggggccg
540
aacgccact cctgtgtgct gcagtggaaat ggacgcagct tctccgtctg gtttcatggg
600
ctggaggctc cctgccccca ccccttctcg cccacgggtg ggggtctgct ggaatacgct
660
gaccgtgctt tggccttcta tgctgtacgg gacggcaaga tgagcctcct gcggagggtg
720
aaggcctccc ggccccgcg ggggtggcat ccggcctccc ccattgacct cttccagagc
780
cgcttggaac gtcactttgc ggggctcttc acccacagac tcaagcctgc cttcttctg
840
gagagtgtgg acgcccactt gcagatcggg cccctcaaga agtcctgcat atccgtgctg
900
aagaggaggt gatgccgggc acgggcgctc ctgctgccgt ctctgtcca ggaagctgcc
960
tcctctgggc cctctccttc gtctgggaag gcaccagcat ggtcccaca caccagcct
1020

```



tctcatttct agaggcttcc acctttttat acactcagcc ttccctctcc caggcaggag  
 1080  
 gacccccaga ccctgttccc ctgcagacct cacttctggg agacagagct acagctggga  
 1140  
 cagctccaag ctaccctaac ccctcctttc ccaggtttct agaatagtgt ctggcatgta  
 1200  
 gtagatgctc aataaacact tgtcgagggg cccgatctgc aagtggggtc cgtcgaccgg  
 1260  
 ccgctaattt agtagtagta gtaggc  
 1286

<210> 3610

<211> 268

<212> PRT

<213> Homo sapiens

<400> 3610

Met	Leu	Ala	Val	Ala	Cys	Val	Asn	Gln	Trp	Glu	Gln	Leu	Arg	Gly	Pro	1	5	10	15
Gly	Gly	Asn	Glu	Asp	Gly	Pro	Gln	Lys	Leu	Asp	Leu	Glu	Ala	Asp	Ala	20	25	30	
Glu	Pro	Gln	Asp	Leu	Glu	Ser	Thr	Asn	Leu	Leu	Glu	Ser	Glu	Ala	Pro	35	40	45	
Arg	Asp	Tyr	Phe	Leu	Lys	Phe	Ala	Tyr	Ile	Val	Asp	Leu	Asp	Ser	Asp	50	55	60	
Thr	Ala	Asp	Lys	Phe	Leu	Gln	Leu	Xaa	Trp	Asn	Gln	Arg	Cys	Gln	Glu	65	70	75	80
Gly	Ala	Val	Ser	Tyr	Gln	Xaa	Tyr	Pro	Leu	Ser	Pro	Thr	Arg	Phe	Thr	85	90	95	
His	Cys	Glu	Gln	Val	Leu	Gly	Glu	Gly	Ala	Leu	Asp	Arg	Gly	Thr	Tyr	100	105	110	
Tyr	Trp	Glu	Val	Glu	Ile	Ile	Glu	Gly	Trp	Val	Ser	Met	Gly	Val	Met	115	120	125	
Ala	Ala	Asp	Phe	Ser	Pro	Gln	Glu	Pro	Tyr	Asp	Arg	Gly	Arg	Leu	Gly	130	135	140	
Arg	Asn	Ala	His	Ser	Cys	Cys	Leu	Gln	Trp	Asn	Gly	Arg	Ser	Phe	Ser	145	150	155	160
Val	Trp	Phe	His	Gly	Leu	Glu	Ala	Pro	Leu	Pro	His	Pro	Phe	Ser	Pro	165	170	175	
Thr	Val	Gly	Val	Cys	Leu	Glu	Tyr	Ala	Asp	Arg	Ala	Leu	Ala	Phe	Tyr	180	185	190	
Ala	Val	Arg	Asp	Gly	Lys	Met	Ser	Leu	Leu	Arg	Arg	Leu	Lys	Ala	Ser	195	200	205	
Arg	Pro	Arg	Arg	Gly	Gly	Ile	Pro	Ala	Ser	Pro	Ile	Asp	Pro	Phe	Gln	210	215	220	
Ser	Arg	Leu	Asp	Ser	His	Phe	Ala	Gly	Leu	Phe	Thr	His	Arg	Leu	Lys	225	230	235	240
Pro	Ala	Phe	Phe	Leu	Glu	Ser	Val	Asp	Ala	His	Leu	Gln	Ile	Gly	Pro	245	250	255	
Leu	Lys	Lys	Ser	Cys	Ile	Ser	Val	Leu	Lys	Arg	Arg					260	265		

<210> 3611

<211> 816

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3611

tacgggggttc actattatgc agtgaaggac aagcagggca taccatgggtg gctgggcctg  
 60  
 agctacaaag ggatcttcca gtatgactac catgataaag tgaagccaag aaagatatc  
 120  
 caatggagac agttggaaaa cctgtacttc agagaaaaga agttttccgt ggaagttcat  
 180  
 gacccacgca gggcttcagt gacaaggagg acgtttgggc acagcggcat tgcagtgcac  
 240  
 acgtggtatg catgtccggc attgatcaag tccatctggg ctatggccat aagccaacac  
 300  
 cagttctatc tggacagaaa gcagagtaag tccaaatcc atgcagcacg cagcctgagt  
 360  
 gagatcgcca tcgacctgac cgagacgggg acgtgaaga cctcgaagct ggccaacatg  
 420  
 ggtagcaagg ggaagatcat cagcggcagc agcggcagcc tgctgtcttc aggttctcag  
 480  
 gaatcagata gctcgcagtc ggccaagaag gacatgctgg ctgccttgaa gtccaggcag  
 540  
 gaagctctgg aggaaaccct gcgtcagagg ctggaggaac tgaagaagct gtgtctccga  
 600  
 gaagctgagc tcacgggcaa gctgccagta gaatatcccc tggatccagg ggaggaacca  
 660  
 cccattgttc ggagaagaat aggaacagcc ttcaaactgg atgaacagaa aatcctgccc  
 720  
 aaaggagagg aagctgaact ggaacgcctg gaacgagagt ttgccattca gtcccagatt  
 780  
 acggaggccg cccgccgcct agccagtgac cccaac  
 816

&lt;210&gt; 3612

&lt;211&gt; 272

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3612

Tyr Gly Val His Tyr Tyr Ala Val Lys Asp Lys Gln Gly Ile Pro Trp  
 1 5 10 15  
 Trp Leu Gly Leu Ser Tyr Lys Gly Ile Phe Gln Tyr Asp Tyr His Asp  
 20 25 30  
 Lys Val Lys Pro Arg Lys Ile Phe Gln Trp Arg Gln Leu Glu Asn Leu  
 35 40 45  
 Tyr Phe Arg Glu Lys Lys Phe Ser Val Glu Val His Asp Pro Arg Arg  
 50 55 60  
 Ala Ser Val Thr Arg Arg Thr Phe Gly His Ser Gly Ile Ala Val His  
 65 70 75 80  
 Thr Trp Tyr Ala Cys Pro Ala Leu Ile Lys Ser Ile Trp Ala Met Ala  
 85 90 95  
 Ile Ser Gln His Gln Phe Tyr Leu Asp Arg Lys Gln Ser Lys Ser Lys  
 100 105 110  
 Ile His Ala Ala Arg Ser Leu Ser Glu Ile Ala Ile Asp Leu Thr Glu

```

      115      120      125
Thr Gly Thr Leu Lys Thr Ser Lys Leu Ala Asn Met Gly Ser Lys Gly
      130      135      140
Lys Ile Ile Ser Gly Ser Ser Gly Ser Leu Leu Ser Ser Gly Ser Gln
145      150      155      160
Glu Ser Asp Ser Ser Gln Ser Ala Lys Lys Asp Met Leu Ala Ala Leu
      165      170      175
Lys Ser Arg Gln Glu Ala Leu Glu Glu Thr Leu Arg Gln Arg Leu Glu
      180      185      190
Glu Leu Lys Lys Leu Cys Leu Arg Glu Ala Glu Leu Thr Gly Lys Leu
      195      200      205
Pro Val Glu Tyr Pro Leu Asp Pro Gly Glu Glu Pro Pro Ile Val Arg
      210      215      220
Arg Arg Ile Gly Thr Ala Phe Lys Leu Asp Glu Gln Lys Ile Leu Pro
225      230      235      240
Lys Gly Glu Glu Ala Glu Leu Glu Arg Leu Glu Arg Glu Phe Ala Ile
      245      250      255
Gln Ser Gln Ile Thr Glu Ala Ala Arg Arg Leu Ala Ser Asp Pro Asn
      260      265      270

```

&lt;210&gt; 3613

&lt;211&gt; 659

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3613

```

acgcgtaaag ttgcctttca agctctggcc tccgggcacg cgatgctccg cggcgggctg
60
actcagggtt gccttggggc tccctgccac cctcctggaa atgatgcaag tcttgactgt
120
cacctggatc cctgcagccc agcctggaat gcgtctggat taggggaaag acgagaaacg
180
acactccagg tggtgcacgg ccaccaaag cggaagata gggcagttgc tcagaccaa
240
tactgtatct agtgcttctg ctctatctt caatcgtggg gttcttttta atgcaaagt
300
tcacaaggcc aggaattccc atgtgtgctc agttggccca cagcatcatt gtgcctagga
360
aactgcttca atttatcaag tcctctgggc tggaatctc actgaattcc aaacggcgga
420
aagaggaaac tttccaacc cgatgtgggt gtgacgcgag ccagggggccc cagggacact
480
gtcccagagc acaccgtccc cctttaacag caactggagc ttggattcgc tcttatattg
540
tacagtcctt tcgaccattg ccctggagca cccgcacacg cgcacgcac tccggccgcg
600
ctcacacaca ctcatacaca cgcacgcaaa cgcggtcgga gaagagcccc cccccccc
659

```

&lt;210&gt; 3614

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3614

```

Met Gln Ser Val Thr Arg Pro Gly Ile Pro Met Cys Ala Gln Leu Ala
 1           5           10           15
His Ser Ile Ile Val Pro Arg Lys Leu Leu Gln Phe Ile Lys Ser Ser
      20           25           30
Gly Leu Gly Ile Ser Leu Asn Ser Lys Arg Arg Lys Glu Glu Thr Phe
      35           40           45
Pro Thr Arg Cys Gly Cys Asp Ala Ser Gln Gly Pro Gln Gly His Cys
      50           55           60
Pro Arg Ala His Arg Pro Pro Leu Thr Ala Thr Gly Ala Trp Ile Arg
      65           70           75           80
Ser Tyr Ile Val Gln Ser Phe Arg Pro Leu Pro Trp Ser Thr Arg Thr
      85           90           95
Arg Ala Arg Ile Ser Gly Arg Ala His Thr His Ser Tyr Thr Arg Thr
      100          105          110
Gln Thr Arg Ser Glu Lys Ser Pro Pro Pro Pro
      115          120

```

&lt;210&gt; 3615

&lt;211&gt; 1388

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3615

```

mnggcagagc ctcccgaaga aaagggagcc gcgcagcgcc tacgggagtc cggcggcagc
60
agccggtacc ggcaaccacg ggcagctctc aggggaatctc cgtcgtgagg ccagaggctc
120
cagtccccgc gagtccagat gcctgtccag cctccaagca aagacacaga agagatggaa
180
gcagaggggtg attctgctgc tgagatgaat ggggaggagg aagagagtga ggaggagcgg
240
agcggcagcc agacagagtc agaagaggag agctccgaga tggatgatga ggactatgag
300
cgacgccgca gcgagtgtgt cagtgagatg ctggacctag agaagcagtt ctcggagcta
360
aaggagaagt tgttcagga acgactgagt cagctgcggt tgcggctgga ggaagtgggg
420
gctgagagag cccctgaata cacggagccc cttggggggc tgcagcggag cctcaagatt
480
cgcattcagg tggcagggat ctacaagggc ttctgtctgg atgtgatcag gaataagtac
540
gaatgtgagc tgcagggagc caaacagcac ctggagagtg agaagctgct gctctatgac
600
acgctgcagg gggagctgca ggagcggatc cagaggctgg aggaggaccg ccagagcctg
660
gacctcagct ctgaatggtg ggacgacaaa ctgcacgcca gaggcagctc caggtcttgg
720
gactccctgc cgcccagcaa gaggaagaag gcacctctgg tttctggccc atacatcgtg
780
tacatgcttc aagagatcgg catcctggag gactggacag ccatcaaaaa ggctagggca
840
gctgtgtccc ctcaagaag aaaatcggat gacaggcgga cccacaggcc cctcagggtc
900

```

tgcccagcca ggctcctgtg gtgctgctgg gccctccac tccatctggc actggcctgg  
 960  
 actcctcctc tgccctcctc gaggcctgca cagctgtggc cgtggagctg acctgaccag  
 1020  
 gcaaggctgc tgtctccatc cctgagccgc ctgccacctc ccactcctga agatccatct  
 1080  
 cttggggctc ccctgacaga gaagacagcc gaagtcaaag ccacatcctc ttgctgatgt  
 1140  
 tggatgcagg ctgtccggcc tcaggggccag ggagccagtt tccactgtgc gggaactctg  
 1200  
 agtcagacgt gattatctgg gggctgtgcc accctggctg gatctggagg caagatgccca  
 1260  
 ggccccccag gtgttctcag ggcagttctt ggtgtctgct tctcagattc caaggactgg  
 1320  
 aattaaaacc tttcctggga ctctggaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1380  
 aaaaaaaaa  
 1388

&lt;210&gt; 3616

&lt;211&gt; 290

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3616

Met	Pro	Val	Gln	Pro	Pro	Ser	Lys	Asp	Thr	Glu	Glu	Met	Glu	Ala	Glu
1			5					10						15	
Gly	Asp	Ser	Ala	Ala	Glu	Met	Asn	Gly	Glu	Glu	Glu	Glu	Ser	Glu	Glu
			20				25						30		
Glu	Arg	Ser	Gly	Ser	Gln	Thr	Glu	Ser	Glu	Glu	Glu	Ser	Ser	Glu	Met
		35					40					45			
Asp	Asp	Glu	Asp	Tyr	Glu	Arg	Arg	Arg	Ser	Glu	Cys	Val	Ser	Glu	Met
	50					55					60				
Leu	Asp	Leu	Glu	Lys	Gln	Phe	Ser	Glu	Leu	Lys	Glu	Lys	Leu	Phe	Arg
65				70					75					80	
Glu	Arg	Leu	Ser	Gln	Leu	Arg	Leu	Arg	Leu	Glu	Glu	Val	Gly	Ala	Glu
			85						90					95	
Arg	Ala	Pro	Glu	Tyr	Thr	Glu	Pro	Leu	Gly	Gly	Leu	Gln	Arg	Ser	Leu
		100					105						110		
Lys	Ile	Arg	Ile	Gln	Val	Ala	Gly	Ile	Tyr	Lys	Gly	Phe	Cys	Leu	Asp
		115					120					125			
Val	Ile	Arg	Asn	Lys	Tyr	Glu	Cys	Glu	Leu	Gln	Gly	Ala	Lys	Gln	His
	130					135					140				
Leu	Glu	Ser	Glu	Lys	Leu	Leu	Leu	Tyr	Asp	Thr	Leu	Gln	Gly	Glu	Leu
145				150					155					160	
Gln	Glu	Arg	Ile	Gln	Arg	Leu	Glu	Glu	Asp	Arg	Gln	Ser	Leu	Asp	Leu
			165						170					175	
Ser	Ser	Glu	Trp	Trp	Asp	Asp	Lys	Leu	His	Ala	Arg	Gly	Ser	Ser	Arg
		180					185						190		
Ser	Trp	Asp	Ser	Leu	Pro	Pro	Ser	Lys	Arg	Lys	Lys	Ala	Pro	Leu	Val
	195						200					205			
Ser	Gly	Pro	Tyr	Ile	Val	Tyr	Met	Leu	Gln	Glu	Ile	Gly	Ile	Leu	Glu
	210					215					220				
Asp	Trp	Thr	Ala	Ile	Lys	Lys	Ala	Arg	Ala	Ala	Val	Ser	Pro	Gln	Lys

```

225          230          235          240
Arg Lys Ser Asp Asp Arg Arg Thr His Arg Pro Leu Arg Val Cys Pro
          245          250          255
Ala Arg Leu Leu Trp Cys Cys Trp Ala Leu Pro Leu His Leu Ala Leu
          260          265          270
Ala Trp Thr Pro Pro Leu Pro Ser Ser Arg Pro Ala Gln Leu Trp Pro
          275          280          285
Trp Ser
          290

```

<210> 3617  
 <211> 804  
 <212> DNA  
 <213> Homo sapiens

```

<400> 3617
nnccaacctg catgagattc agtttggccg aaccttccag catcagcttc gagattctgg
60
ggctttaaca gcaagggaga ggtgcatggg atcaatggga ccaatgggg ccagactctg
120
aggatgggat ggtagtagtg aaggacatag gatgggggta gagtgtggag actttttgaa
180
atagtataga tgaatgccct gaggggactg tgaacaagct ctgcccctct taggaaatca
240
atggggaatc aactaaatta aataaaaaat ggggtcaaga ttaagaggca gggtcaccca
300
gggaatgggt taggtcctgg catctttgaa ggggttgaa gggctggcag gaggcactga
360
gggccctggg ccctgggcca ggtggtgaat tacagcgact cacggacagc agaagagatc
420
tgtgagagca gtcceaagat gatcaccttc atcgacctgg caggccacca taagtaccta
480
cacaccacca tctttggcct cacatcatac tgccccgact gcgccctgct cctcgtcagt
540
gccaacactg ggattgctgg caccacaagg gaacatctgg ggctggccct ggccctgaaa
600
gtgcccttct tcatcggtgt cagcaagatc gacctatgtg ccaagaccac agtggagagg
660
acagtacgcc agctggagcg ggtcctcaag cagcctggct gccacaaggt ccccatgctg
720
gtcacctctg aggatgatgc cgtcactgct gcccagcagt ttgctcagtc acccaatgct
780
acccccatct tcacattgtc cagt
804

```

<210> 3618  
 <211> 148  
 <212> PRT  
 <213> Homo sapiens

```

<400> 3618
Gly Pro Trp Ala Leu Gly Gln Val Val Asn Tyr Ser Asp Ser Arg Thr
1          5          10          15
Ala Glu Glu Ile Cys Glu Ser Ser Ser Lys Met Ile Thr Phe Ile Asp

```

[illegible]

<210> 3619

<211> 948

<212> DNA

<213> Homo sapiens

<400> 3619

60	acgcgctcggc	agaggtggct	tgtccccgcg	gagtcaggcc	ttcagctcct	ggcttctctt
120	ctttctctct	agagatcaga	tgtcggaaact	ccagctgagg	gcatgtctta	ctgggcacgc
180	aggtgtctct	tcttgagaag	aactgtccat	accatgggtg	tggttaaggct	ttcaccagtt
240	ctcaggatgc	ccatagggat	gggtgaagcc	tgcctggcct	gtggtgcttt	ccagtggccg
300	tcattctcatt	agggccccac	agtggcatta	ggatgcacct	ctcggcggtg	ttcaacgccc
360	tcttggtgtc	ggtgctggca	gcggtcctgt	ggaagcatgt	gcggctgcgt	gagcatgcag
420	ccacactgga	ggaggagctg	gccctcagcc	gacaggccac	agagccagcc	ccagcactga
480	ggatcgacta	cccgaaggca	ctgcagatcc	tgatggaggg	cggcacacac	atggtgtgca
540	cgggccgcac	gcacacagac	cgcattctgcc	gcttcaagtg	gctctgctac	tccaacgagg
600	ctgaggagtt	catcttcttc	catggcaaca	cctctgtcat	gctgcccac	ctgggctccc
660	ggcgcttcca	gccagccctg	ctcgacctat	ccaccgtgga	ggaccacaac	actcagtact
720	tcaacttcgt	ggagctgect	gctgctgccc	tgcgcttcat	gcccaagccg	gtgttcgtgc
780	cagacgtggc	cctcatcgcc	aaccgcttca	accccgacaa	cctcatgcac	gtctttcatg
840	acgacctgct	gccactcttc	tacacctgc	ggcagtttcc	cggcctggcc	cacgaggcac
900	ggctcttctt	catggagggc	tggggcgagg	gtgcacactt	cgacctctac	aagctgctca

gccccaaagca gcctctcctg cgggcacagc tgaagaccct gggccggc  
948

<210> 3620  
<211> 159  
<212> PRT  
<213> Homo sapiens

<400> 3620  
Trp Arg Ala Ala His Thr Trp Cys Ala Arg Ala Ala Arg Thr Gln Thr  
1 5 10 15  
Ala Ser Ala Ala Ser Ser Gly Ser Ala Thr Pro Thr Arg Leu Arg Ser  
20 25 30  
Ser Ser Ser Ser Met Ala Thr Pro Leu Ser Cys Cys Pro Thr Trp Ala  
35 40 45  
Pro Gly Ala Ser Ser Gln Pro Cys Ser Thr Tyr Pro Pro Trp Arg Thr  
50 55 60  
Thr Thr Leu Ser Thr Ser Thr Ser Trp Ser Cys Leu Leu Leu Pro Cys  
65 70 75 80  
Ala Ser Cys Pro Ser Arg Cys Ser Cys Gln Thr Trp Pro Ser Ser Pro  
85 90 95  
Thr Ala Ser Thr Pro Thr Thr Ser Cys Thr Ser Phe Met Thr Thr Cys  
100 105 110  
Cys His Ser Ser Thr Pro Cys Gly Ser Phe Pro Ala Trp Pro Thr Arg  
115 120 125  
His Gly Ser Ser Ser Trp Arg Ala Gly Ala Arg Val His Thr Ser Thr  
130 135 140  
Ser Thr Ser Cys Ser Ala Pro Ser Ser Leu Ser Cys Gly His Ser  
145 150 155

<210> 3621  
<211> 2934  
<212> DNA  
<213> Homo sapiens

<400> 3621  
cccggggcga gacggtgctt tcgcggcgtg tgcttgacagg agcgcacagt tcaggcgccg  
60  
ggacaagctg ttgggggtg agtgagctct ccagaatggc acatggctcc ggggtgcccg  
120  
ggttaaaagg aaggatttgc acaccttcca cttagggtc gggtaatccc aaacttcctc  
180  
ccttaattgg gcttgacgtg ctaaaaagca gatcggttctc tctgaggttt tcccaacagt  
240  
acctcaagaa aataacatct gttttttgta acgttccaca gtattcggaa ttggctacag  
300  
aacataataa gatccttgcc agcacattac agaatatattt tggtgaacct tcttgagaat  
360  
tcagagaaac tgctgagtga ccactgaacg aaaagatcta atcttaaggc ttacgcgtgt  
420  
tccatccacc acatcagaac aatgtcgtat gtttttgtaa atgattcttc tcagactaac  
480  
gtgcccttgc tgcaagcctg tattgatggg gactttaatt attccaagcg gcttttgga  
540



agtggctttg acccaaatat tcgtgacagc aggggcagaa caggccttca ccttgcagca  
600  
gctcgagggg atgtagacat ctgccagtta ctgcataaat tcggtgccga tcttctggcc  
660  
acagattatc aaggaaacac agctcttcac ctctgtggcc atgtggatac tatccaattt  
720  
ttggtttcca atggactcaa aattgatatt tgcaatcatc aagggtgctac ccctttagtt  
780  
ctggcaaagc gcagaggagt aaataaagat gtcatccgat tgctggaatc tttggaagaa  
840  
caggaggtga aaggatttaa cagaggaacc cactcgaaac tggagaccat gcaaacagct  
900  
gagagtgaag gtgccatgga aagccattca ctctcaatc ccaacctgca gcaaggtgaa  
960  
ggagtcctct ccagcttccg aaccacgtgg caggagtttg tggaggatct gggcttctgg  
1020  
agagtattgc tgttgatctt cgtcattgct ttgctgtctc ttggcattgc ttattatgtg  
1080  
agtgggggtg tacccttcgt ggaaaaccag cctgaactgg tgcattaaag gagctcatgg  
1140  
aagatgaggc aattaatttc ctgtttcctg gcttccaatg tttgttctca gtttctcaga  
1200  
atttttctta gcgcaaagca gtgagggcag tacatgttct ttttgcatct ttaattattg  
1260  
taatcctttt agataatgat gtgttcattt gaactaacta catactatga tcaagtatat  
1320  
tgcacctaag cgctacctct gactcaacct gactttgtag gaaagcctac acgtagcctt  
1380  
gtttgataaa aacacggaag tgactagaga atggaagata aaggaagaag ctaggaagtc  
1440  
cttgctatca aaaccttctc ctaatatagg accaattgaa gtattcaaaa agaaaaacag  
1500  
tatcttatat gattagtttt tgttggtggt tttgttttca tttatttttg caagagccac  
1560  
ttttttattt ctttctctag ggataagaga taaaacttga agtacttttt tcaaatcttg  
1620  
tgtgcaaatt agtattgtta gcacttatct ggcttatctt agtattttta agtctagtca  
1680  
caaaccacac aaaacttttg aaaatgagct atattttggt caaagataat tgatttgatc  
1740  
ttatatattt ttgttttttag gataattttt gatctttttg taaactgctt tgcttggtta  
1800  
tatctgtgaa aaataaatga gttcattttg ttcactttcc aattttcccg agtatcctag  
1860  
tcacaaaga taacagttca tcagaattac agtcagaaaa tcctttttct actgaatagt  
1920  
tagcagggaa aaataattct gatatttaac tgcataatt ctgtagtgct attatagtga  
1980  
aaaactcagt tctataagct agctgtgttg tcacagtttt atcatagttc ataattattt  
2040  
catgtgcaat cctatttgga ggccctgtta gacttttaac aatcccatcc atatctgtaa  
2100  
ttctctgatg gcaagaatgg atggagcatt tctgagttta cagtgtctga cagtatcgta  
2160

ctgggtgtca taaactcttt atgaatggta atattatgta aattgaaatc tggccctcaa  
 2220  
 actatattgc agctttcagc agtatgtttg aaggcctctt ttgttaatga ttctgtaatg  
 2280  
 tatgaattat gttcttgagt ggtaaaaaa gaatatgaag gcttgataat tattttattgg  
 2340  
 gtaaagtcag gaaattgtag tgaaagaact aatggttttg ttttttggaa taaaggcacc  
 2400  
 taagctattg ctaattgaat tgctgctaga attagaaatt atgctttaga atagaattgg  
 2460  
 tattttctgtg attctttttg cttcttggtg ttttctcttg tatctatgta tctagtattg  
 2520  
 aggtctgctc tttcatgtgg ctttatcctc tctttaatag ctgttgtaaa attcctgagt  
 2580  
 aactggctgc ttcaggatca gcttgagag tcttgctttt aggttagata caaaciaaagt  
 2640  
 aaatcatagt tgggtgtaa atcagcaaaaa acagctggct ttggaatgga gaacactaca  
 2700  
 attcaaattt gaagtatatt cagaagaaaa ctttgggaatt agctttacat ttgtttgtaa  
 2760  
 atctaaacaa atatgcaaaa ttggtcaaaa tgtaagtata tagcattttt aaagattaat  
 2820  
 ggttcctttt atgtgctgat ttctttgtat tctgttctct gcattcatca ttcaggaata  
 2880  
 ccaccaataa atgtatttat atatccctta aaaaaaaaaa aaaaaaaaaa aaaa  
 2934

<210> 3622

<211> 228

<212> PRT

<213> Homo sapiens

<400> 3622

Met	Ser	Tyr	Val	Phe	Val	Asn	Asp	Ser	Ser	Gln	Thr	Asn	Val	Pro	Leu
1				5					10					15	
Leu	Gln	Ala	Cys	Ile	Asp	Gly	Asp	Phe	Asn	Tyr	Ser	Lys	Arg	Leu	Leu
			20					25					30		
Glu	Ser	Gly	Phe	Asp	Pro	Asn	Ile	Arg	Asp	Ser	Arg	Gly	Arg	Thr	Gly
		35				40						45			
Leu	His	Leu	Ala	Ala	Ala	Arg	Gly	Asn	Val	Asp	Ile	Cys	Gln	Leu	Leu
	50					55				60					
His	Lys	Phe	Gly	Ala	Asp	Leu	Leu	Ala	Thr	Asp	Tyr	Gln	Gly	Asn	Thr
65				70						75				80	
Ala	Leu	His	Leu	Cys	Gly	His	Val	Asp	Thr	Ile	Gln	Phe	Leu	Val	Ser
			85					90						95	
Asn	Gly	Leu	Lys	Ile	Asp	Ile	Cys	Asn	His	Gln	Gly	Ala	Thr	Pro	Leu
		100					105					110			
Val	Leu	Ala	Lys	Arg	Arg	Gly	Val	Asn	Lys	Asp	Val	Ile	Arg	Leu	Leu
	115					120					125				
Glu	Ser	Leu	Glu	Glu	Gln	Glu	Val	Lys	Gly	Phe	Asn	Arg	Gly	Thr	His
	130					135				140					
Ser	Lys	Leu	Glu	Thr	Met	Gln	Thr	Ala	Glu	Ser	Glu	Ser	Ala	Met	Glu
145					150					155				160	
Ser	His	Ser	Leu	Leu	Asn	Pro	Asn	Leu	Gln	Gln	Gly	Glu	Gly	Val	Leu

```

                165                170                175
Ser Ser Phe Arg Thr Thr Trp Gln Glu Phe Val Glu Asp Leu Gly Phe
                180                185                190
Trp Arg Val Leu Leu Leu Ile Phe Val Ile Ala Leu Leu Ser Leu Gly
                195                200                205
Ile Ala Tyr Tyr Val Ser Gly Val Leu Pro Phe Val Glu Asn Gln Pro
                210                215                220
Glu Leu Val His
225

```

<210> 3623  
 <211> 586  
 <212> DNA  
 <213> Homo sapiens

```

<400> 3623
ctgtgtgcat tcaatgctg agctgcgacc taagcagaga tctaacaaga caatgaggca
60
gtgttccagg gtatccatta aaaccggcgt gggcaactac atgttgatta aaccttccga
120
ggcagcaaaa tgtgggcaca gcgccatgtc tgggttctgc agctgtttga tgatcctctt
180
gcggaatttc tccctcacac gattaaattc cattatgtcc atggggtcct cttcgatcca
240
aaacttatga aattcatgca tcaaatagca gaatgtttgc tgaaagtgag acaatgttgg
300
agcttctggg gcgatattgt agaaatgggt ttttagagct ccgctgacca gtagattata
360
tgccagggtca gttatattga tgcccacaat tgcaaatgag taccgaattg ctttatccat
420
ccttttcttc tccattctg ctttgctgaa tttgcttatt tcttctttag tgatatccct
480
gcatttcgga tgaagagagt cagacaggac ctgctgagct gctgtggcat ccctttccgc
540
gaaatactgc aaattgtaca gtcccagaag tccattcct cgaaag
586

```

<210> 3624  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

```

<400> 3624
Met Gly Leu Leu Gly Leu Tyr Asn Leu Gln Tyr Phe Ala Glu Arg Asp
1      5      10      15
Ala Thr Ala Ala Gln Gln Val Leu Ser Asp Ser Leu His Pro Lys Cys
20     25     30
Arg Asp Ile Thr Lys Glu Glu Ile Ser Lys Phe Ser Lys Ala Glu Trp
35     40     45
Glu Lys Lys Arg Met Asp Lys Ala Ile Gly Tyr Ser Phe Ala Ile Val
50     55     60
Gly Ile Asn Ile Thr Asp Leu Ala Tyr Asn Leu Leu Val Ser Gly Ala
65     70     75     80
Leu Lys Thr His Phe Tyr Asn Ile Ala Pro Glu Ala Pro Thr Leu Ser

```

	85		90		95										
His	Phe	Gln	Gln	Thr	Phe	Cys	Tyr	Leu	Met	His	Glu	Phe	His	Lys	Phe
		100						105					110		
Trp	Ile	Glu	Glu	Asp	Pro	Met	Asp	Ile	Met	Glu	Phe	Asn	Arg	Val	Arg
		115					120					125			
Glu	Lys	Phe	Arg	Lys	Arg	Ile	Ile	Lys	Gln	Leu	Gln	Asn	Pro	Asp	Met
	130					135				140					
Ala	Leu	Cys	Pro	His	Phe	Ala	Ala	Ser	Glu	Gly	Leu	Ile	Asn	Met	
145					150					155					

&lt;210&gt; 3625

&lt;211&gt; 4799

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3625

```

naaataaaaca tcatcatcta tgtgtaatca aattcccata tttcttctct ataaagaatt
60
tgcttttagtt tttcaataag gcattttttt gtcattccaaa catctcttcc ttttaaaatt
120
ttcttagagt taaaaccata aataagagga tttaaaccac taaaatgaca cgtgccaaaca
180
tcttcattca gccagacctg gtaaatctta tcaaaactag acagttaaata aagaaccacg
240
ttataaaaaat attagccaaa aaaagactat tagataattc tgcaaactca aatatgaaac
300
tgtgctaaac aaaatatgtg caaaggtaca caagcataga gccacgttgg gggttatgct
360
cagattagtt ttaaagctcc ctctagtggg tttaattcaa gagttgtcca cgggtggtggt
420
gtttactttg aactcacacg agtcaaagaa aaataaaaata tgcacaacca cttccccaaa
480
agggtgtcta tggagccggt gcttcacgtg gtccacaccc aggactgcct ggggtgtccc
540
tagggctggg ggggtggggag gacaaagaca aggccactgt cccaagtcct gggccaggca
600
acatcctgga gaccctcggg ctgaggttag gggcaagggc aacactgatg actccacgtc
660
ctcgtccaag gcctcagagg agccttgcca ggacctcagt gctttggagg aggtggtgag
720
agcaggccag gctgaggggc ctgccttgga aggcgagggt ctgaggggtg gggctgtaaa
780
gacagccctt tcatcaggaa gctggagctg aaaagcccta ataccctaa tccccaaact
840
cttgatccc gtccacaga cgagagtccc tgctcggcat cctccagcac aggtgctctg
900
gggtgggtccc aggccaggc actagagaag gaaagggttg gttgtgccag tggcctgggc
960
tgctgatggg ggtataccca cactgcccac catgttcac attgcagggc ccagtgggtg
1020
cagagaggaa ccagtggccc ccagagctgg ctgtggggcc gcggaggtca tcgaggccac
1080
agccatggac tccactcctg ggccaggccc aaaggatgtg ctggtcccca ggactgggct
1140

```

ccccgaagc tgggttcagtg tcagcggctg gggctggttc acctggaaag ggttaacagg  
1200  
ggccgaggtg gcgaggagcac ctggtgccag gaaagggttg agggactggg ctggtggggc  
1260  
aggcctggtc accagtgagt ccagggtcac cagggccgctg ttggggccca ggaaggactc  
1320  
aggtgttttc cgggcactgc tgggcttgct tgaggcgaca gtcagggggt gagactcaaa  
1380  
ggggtcaggg ctggtagtgc cattgttttg ggatggcaga gaggtcacag attcggctgt  
1440  
ttttttgaa gtccgaaggt tgtcaaattc agaaaagtca tctttaattg taccattcag  
1500  
attactgaag agctcaaagg acccagagac agacacgggc ttggtggtgg agactgcgcc  
1560  
ccacgcgtca gaagctcttt tccagcact ggaggcaggc tgctgtgaag ctgcccaggg  
1620  
gtccgagttc ttggggacag attgtgcggt ggctccagtg ggcaccccc atgggtcaat  
1680  
ggaggcagct ggcttggtac caaacgatgg ccagggggtct gaagtactcg caggagccgc  
1740  
tggcccgccc cagggggttg tctggttagt ggaggctgac gggccccagg gctctgcttt  
1800  
ctgggccgctg gggcccgagc tggggagagc atccattaaa tccaacagcg tagtctgctg  
1860  
tgggagagag ccatgctctt tcttttttg aattttaact gtgtcccttc ggctttcttc  
1920  
cagggccatc tgtaatctga ggtcatcacc ccgcctgagg cgttcttcct gtcagccac  
1980  
ttctctgctc atggcaagtg ccagctgcag ctgaagctcc tcttctccac tagtgtggg  
2040  
ccgggcttgc tccagctcgg aggacactcg cggggaggtg gagccatggt aggaggccgg  
2100  
ggagcccccg gccttgccat actcctgctc cgagtggctg gtggagaggt tgggctggct  
2160  
ggagcctcgc ccaaaggta tctggttgct gccatgcca gtggcaacct gggccatgcg  
2220  
ctctttgggt ttgagagcct gggecctctc agccttcaac cgttctctgt cgcgagcag  
2280  
ggccaccagt tgctttgact tctcacgcac attgatgccc tggtecttgc catctcggtc  
2340  
aatgtactgg aagtccttca gggctctggat ggcgtacatg ttctcccggc actgctgcga  
2400  
cacgcgtcc gagcctgtct tgatgaggtg gtccagcagc gtcagcgcct tgtacacatg  
2460  
ccgccagttc ttgccatggt cattcagccg ctccacacc atgctcatga tctccagaa  
2520  
ggccaccacg ttgtaggta ggtcggcaat ctcggtcatc agagaactgg acgggcccc  
2580  
ggggtcattg gaggtggctt cccggacttt gatttctgcc tctgagtaat tgttcacgat  
2640  
gtccagcacc tgccgcagcc ttcgtccggg agtcgcccc tctctccag catcggggcc  
2700  
ctgtgcccct tgctgctgca gccgggcacc atgtcgacct cgtccttgag gcgccagatg  
2760

aagaacatcg tccacaacta ctcagaggcg gagatcaagg ttcgagaggc cagcagcaat  
2820  
gacccctggg gcccatccag ctccctcatg tcagagattg cgcacctcac ctacaacgtt  
2880  
gtcgccttct cggagatcat gagcatgata tggaaagcggc tcaatgacca tggcaagaac  
2940  
tggcgtcacg tttaacaagg catgacgctg atggagtacc tcatcaagac cggctcggag  
3000  
cgcgtgtcgc agcagtgcaa ggagaacatg tacgccgtgc agacgctgaa ggacttccag  
3060  
tacgtggacc gcgacggcaa ggaccagggc gtgaacgtgc gtgagaaagc taagcagctg  
3120  
gtggccctgc tgcgcgacga ggaccggctg cgggaagagc gggcgcacgc gctcaagacc  
3180  
aaggaaaagc tggcacagac cgccacggcc tcatcagcag ctgtgggctc aggccccct  
3240  
cccaggcgg agcaggcgtg gccgcagagc agcggggagg aggagctgca gctccagctg  
3300  
gccctggcca tgagcaagga ggaggccgac caggaggagc ggatccgtcg cggggatgac  
3360  
ctgcggtgc agatggcaat cgaggagagc aagagggaga ctgggggcaa ggaggagtgc  
3420  
tccctcatgg accttgcga cgtcttcacg gccccagctc ctgccccgac cacagacccc  
3480  
tgggggggcc cagcacccat ggctgctgcc gtccccacgg ctgccccac ctcggacccc  
3540  
tggggcgcc cccctgtccc tccagctgct gatccctggg gaggtccagc ccccacgcc  
3600  
gcctctgggg acccctggag gcctgctgcc cctgcaggac cctcagttga cccttgggg  
3660  
gggaccccag cccctgcagc tggggagggg cccacgcctg atccatgggg aagttccgat  
3720  
ggtggggctc cggtcagtgg gccctcagcc tccgatccct ggacaccggc cccggccttc  
3780  
tcagatccct ggggagggct acctgccaag cccagcacca atggcacaa aacagccggg  
3840  
ggattcgaca cggagcccga cgagttctct gactttgacc gactccgcac ggcaactgcc  
3900  
acctccggga gcagcgagg agagctggag ctgctggcag gagaggtgcc ggcccgaagc  
3960  
cctggggcgt ttgacatgag tggggtcagg ggatctctgg ctgaggtgt gggcagcccc  
4020  
ccacctgcag ccacaccaac tcccacgcc cccaccggga agacgccgga gtcattcctg  
4080  
gggcccattg cagccctcgt cgacctggac tcgctggtga gccggccggg ccccacgcc  
4140  
cctggagcca aggcctcaa ccccttctc ccaggcggag gccagccac tggcccttc  
4200  
gtcaccaacc ccttcagcc cgcgcctccc gcgacgtca ccctgaacca gctccgtctc  
4260  
agtctgtgc ctccgtccc tggagcgcca cccacgtaca tctctccct tggcggggg  
4320  
cctggcctgc ccccatgat gccccgggc ccccgcccc ccaactaa tcccttctc  
4380

ctataatcca gggcggaatg gggcctggct ccatcgggt gcccattcc ggctccctgg  
 4440  
 gagatcagtg ttgtgagtgc atgtgaaatg gggatcccca ccccatggc ccttccctt  
 4500  
 cctggggccc actcacacta caccctcttc ctttcccacc ccacctcccc ggagagaaac  
 4560  
 tggacatggg gcctggggag gggagctggc cagaggagga cccctttccc gtggcattag  
 4620  
 aagggggagg ggtgctgggg accccaccca ttccccctcc ctccaaactc ccaaccccca  
 4680  
 gtcagtgttt gagcctcctc gttccccca cgcaccgctc acgcaccctc ggtgaatcct  
 4740  
 tggatgatgat tttggcaact ttgggaataa atggcaattc ccacgggctt ggcaaaaaa  
 4799

<210> 3626

<211> 551

<212> PRT

<213> Homo sapiens

<400> 3626

Met	Ser	Thr	Ser	Ser	Leu	Arg	Arg	Gln	Met	Lys	Asn	Ile	Val	His	Asn
1				5					10					15	
Tyr	Ser	Glu	Ala	Glu	Ile	Lys	Val	Arg	Glu	Ala	Thr	Ser	Asn	Asp	Pro
		20						25					30		
Trp	Gly	Pro	Ser	Ser	Ser	Leu	Met	Ser	Glu	Ile	Ala	Asp	Leu	Thr	Tyr
		35					40					45			
Asn	Val	Val	Ala	Phe	Ser	Glu	Ile	Met	Ser	Met	Ile	Trp	Lys	Arg	Leu
	50					55					60				
Asn	Asp	His	Gly	Lys	Asn	Trp	Arg	His	Val	Tyr	Lys	Ala	Met	Thr	Leu
	65				70					75				80	
Met	Glu	Tyr	Leu	Ile	Lys	Thr	Gly	Ser	Glu	Arg	Val	Ser	Gln	Gln	Cys
			85						90					95	
Lys	Glu	Asn	Met	Tyr	Ala	Val	Gln	Thr	Leu	Lys	Asp	Phe	Gln	Tyr	Val
		100						105					110		
Asp	Arg	Asp	Gly	Lys	Asp	Gln	Gly	Val	Asn	Val	Arg	Glu	Lys	Ala	Lys
		115					120					125			
Gln	Leu	Val	Ala	Leu	Leu	Arg	Asp	Glu	Asp	Arg	Leu	Arg	Glu	Glu	Arg
	130					135					140				
Ala	His	Ala	Leu	Lys	Thr	Lys	Glu	Lys	Leu	Ala	Gln	Thr	Ala	Thr	Ala
	145				150					155				160	
Ser	Ser	Ala	Ala	Val	Gly	Ser	Gly	Pro	Pro	Pro	Glu	Ala	Glu	Gln	Ala
			165						170					175	
Trp	Pro	Gln	Ser	Ser	Gly	Glu	Glu	Glu	Leu	Gln	Leu	Gln	Leu	Ala	Leu
		180						185					190		
Ala	Met	Ser	Lys	Glu	Glu	Ala	Asp	Gln	Glu	Glu	Arg	Ile	Arg	Arg	Gly
		195					200					205			
Asp	Asp	Leu	Arg	Leu	Gln	Met	Ala	Ile	Glu	Glu	Ser	Lys	Arg	Glu	Thr
	210					215					220				
Gly	Gly	Lys	Glu	Glu	Ser	Ser	Leu	Met	Asp	Leu	Ala	Asp	Val	Phe	Thr
	225					230				235				240	
Ala	Pro	Ala	Pro	Ala	Pro	Thr	Thr	Asp	Pro	Trp	Gly	Gly	Pro	Ala	Pro
			245						250					255	
Met	Ala	Ala	Ala	Val	Pro	Thr	Ala	Ala	Pro	Thr	Ser	Asp	Pro	Trp	Gly

260 265 270  
 Gly Pro Pro Val Pro Pro Ala Ala Asp Pro Trp Gly Gly Pro Ala Pro  
 275 280 285  
 Thr Pro Ala Ser Gly Asp Pro Trp Arg Pro Ala Ala Pro Ala Gly Pro  
 290 295 300  
 Ser Val Asp Pro Trp Gly Gly Thr Pro Ala Pro Ala Ala Gly Glu Gly  
 305 310 315 320  
 Pro Thr Pro Asp Pro Trp Gly Ser Ser Asp Gly Gly Val Pro Val Ser  
 325 330 335  
 Gly Pro Ser Ala Ser Asp Pro Trp Thr Pro Ala Pro Ala Phe Ser Asp  
 340 345 350  
 Pro Trp Gly Gly Ser Pro Ala Lys Pro Ser Thr Asn Gly Thr Thr Thr  
 355 360 365  
 Ala Gly Gly Phe Asp Thr Glu Pro Asp Glu Phe Ser Asp Phe Asp Arg  
 370 375 380  
 Leu Arg Thr Ala Leu Pro Thr Ser Gly Ser Ser Ala Gly Glu Leu Glu  
 385 390 395 400  
 Leu Leu Ala Gly Glu Val Pro Ala Arg Ser Pro Gly Ala Phe Asp Met  
 405 410 415  
 Ser Gly Val Arg Gly Ser Leu Ala Glu Ala Val Gly Ser Pro Pro Pro  
 420 425 430  
 Ala Ala Thr Pro Thr Pro Thr Pro Pro Thr Arg Lys Thr Pro Glu Ser  
 435 440 445  
 Phe Leu Gly Pro Asn Ala Ala Leu Val Asp Leu Asp Ser Leu Val Ser  
 450 455 460  
 Arg Pro Gly Pro Thr Pro Pro Gly Ala Lys Ala Ser Asn Pro Phe Leu  
 465 470 475 480  
 Pro Gly Gly Gly Pro Ala Thr Gly Pro Ser Val Thr Asn Pro Phe Gln  
 485 490 495  
 Pro Ala Pro Pro Ala Thr Leu Thr Leu Asn Gln Leu Arg Leu Ser Pro  
 500 505 510  
 Val Pro Pro Val Pro Gly Ala Pro Pro Thr Tyr Ile Ser Pro Leu Gly  
 515 520 525  
 Gly Gly Pro Gly Leu Pro Pro Met Met Pro Pro Gly Pro Pro Ala Pro  
 530 535 540  
 Asn Thr Asn Pro Phe Leu Leu  
 545 550

&lt;210&gt; 3627

&lt;211&gt; 1760

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3627

ggCGaaggag atcagcagga cgctgcgcac aacatgggca accacctgcc gtcctgcct  
 60

gcagagagtg aggaagaaga tgaatggaa gttgaagacc aggatagtaa agaagccaaa  
 120

aaaccaaaca tcataaattt tgacaccagt ctgccgacat cacatacata cctaggtgct  
 180

gatatggaag aatttcattg caggactttg cacgatgacg acagctgtca ggtgattcca  
 240

gttcttccac aagtgatgat gatcctgatt cccggacaga cattacctct tcagcttttt  
 300



caccctcaag aagtcagtat ggtgcggaat ttaattcaga aagatagaac ctttgcgtgt  
360  
cttgcataca gcaatgtaca ggaaagggaa gcacagtttg gaacaacagc agagatatat  
420  
gcctatcgag aagaacagga ttttgggaatt gagatagtga aagtgaagc aattggaaga  
480  
caaagggttca aagtccttga gctaagaaca cagtcagatg gaatccagca agctaaagt  
540  
caaattcttc ccgaatgtgt gttgccttca accatgtctg cagttcaatt agaatccctc  
600  
aataagtgcc agatatttcc ttcaaacct gtctcaagag aagaccaatg ttcataataa  
660  
tgggtggcaga aataccagaa gagaaagttt cattgtgcaa atctaacttc atggcctcgc  
720  
tggctgtatt ccttatatga tgctgagacc ttaatggaca gaatcaagaa acagctacgt  
780  
gaatgggatg aaaatctaaa agatgattct cttccttcaa atccaataga tttttcttac  
840  
agagtagctg cttgtcttcc tattgatgat gtattgagaa ttcagctcct taaaattggc  
900  
agtgtatcc agcgacttcg ctgtgaatta gacattatga ataaatgtac ttccttttgc  
960  
tgtaacaat gtcaagaaac agaaataaca accaaaaatg aaatattcag tttatcctta  
1020  
tgtgggccga tggcagctta tgtgaatcct catggatatg tgcagagac acttactgtg  
1080  
tataaggctt gcaacttgaa tctgataggc cggccttcta cagaacacag ctggtttcct  
1140  
gggtatgcct ggactgttgc ccagtgtgaa atctgtgcaa gccatatttg atggaagttt  
1200  
acggccacca aaaaagacat gtcacctcaa aaattttggg gcttaacgag atctgctctg  
1260  
ttgccacga tcccagacac tgaagatgaa ataagtccag acaaagtaat actttgcttg  
1320  
taaacagatg tgatagagat aaagttagtt atctaacaaa ttggttatat tctaagatct  
1380  
gctttggaaa ttattgcctc tgatacatc ctaagtaaac ataacattaa tacctaagta  
1440  
aacataacat tacttggagg gttgcagttt ctaagtgaac ctgtatttga aacttttaag  
1500  
tatactttag gaaacaagca tgaacggcag tctagaatac cagaacatc tacttgggta  
1560  
gcttgggtgcc attatcctgt ggaatctgat atgtctggta gcatgtcatt gatgggacat  
1620  
gaagacatct ttggaaatga tgagattatt tcctgtatgc agtcatttct gaggctttct  
1680  
tgcacatag cccctgtgac atttctctt agaaatatta cactctacaa aattgtttta  
1740  
tcaaggtcca aaattactat  
1760

&lt;210&gt; 3628

&lt;211&gt; 440

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3628

Gly Glu Gly Asp Gln Gln Asp Ala Ala His Asn Met Gly Asn His Leu  
 1 5 10 15  
 Pro Leu Leu Pro Ala Glu Ser Glu Glu Glu Asp Glu Met Glu Val Glu  
 20 25 30  
 Asp Gln Asp Ser Lys Glu Ala Lys Lys Pro Asn Ile Ile Asn Phe Asp  
 35 40 45  
 Thr Ser Leu Pro Thr Ser His Thr Tyr Leu Gly Ala Asp Met Glu Glu  
 50 55 60  
 Phe His Gly Arg Thr Leu His Asp Asp Asp Ser Cys Gln Val Ile Pro  
 65 70 75 80  
 Val Leu Pro Gln Val Met Met Ile Leu Ile Pro Gly Gln Thr Leu Pro  
 85 90 95  
 Leu Gln Leu Phe His Pro Gln Glu Val Ser Met Val Arg Asn Leu Ile  
 100 105 110  
 Gln Lys Asp Arg Thr Phe Ala Val Leu Ala Tyr Ser Asn Val Gln Glu  
 115 120 125  
 Arg Glu Ala Gln Phe Gly Thr Thr Ala Glu Ile Tyr Ala Tyr Arg Glu  
 130 135 140  
 Glu Gln Asp Phe Gly Ile Glu Ile Val Lys Val Lys Ala Ile Gly Arg  
 145 150 155 160  
 Gln Arg Phe Lys Val Leu Glu Leu Arg Thr Gln Ser Asp Gly Ile Gln  
 165 170 175  
 Gln Ala Lys Val Gln Ile Leu Pro Glu Cys Val Leu Pro Ser Thr Met  
 180 185 190  
 Ser Ala Val Gln Leu Glu Ser Leu Asn Lys Cys Gln Ile Phe Pro Ser  
 195 200 205  
 Lys Pro Val Ser Arg Glu Asp Gln Cys Ser Tyr Lys Trp Trp Gln Lys  
 210 215 220  
 Tyr Gln Lys Arg Lys Phe His Cys Ala Asn Leu Thr Ser Trp Pro Arg  
 225 230 235 240  
 Trp Leu Tyr Ser Leu Tyr Asp Ala Glu Thr Leu Met Asp Arg Ile Lys  
 245 250 255  
 Lys Gln Leu Arg Glu Trp Asp Glu Asn Leu Lys Asp Asp Ser Leu Pro  
 260 265 270  
 Ser Asn Pro Ile Asp Phe Ser Tyr Arg Val Ala Ala Cys Leu Pro Ile  
 275 280 285  
 Asp Asp Val Leu Arg Ile Gln Leu Leu Lys Ile Gly Ser Ala Ile Gln  
 290 295 300  
 Arg Leu Arg Cys Glu Leu Asp Ile Met Asn Lys Cys Thr Ser Leu Cys  
 305 310 315 320  
 Cys Lys Gln Cys Gln Glu Thr Glu Ile Thr Thr Lys Asn Glu Ile Phe  
 325 330 335  
 Ser Leu Ser Leu Cys Gly Pro Met Ala Ala Tyr Val Asn Pro His Gly  
 340 345 350  
 Tyr Val His Glu Thr Leu Thr Val Tyr Lys Ala Cys Asn Leu Asn Leu  
 355 360 365  
 Ile Gly Arg Pro Ser Thr Glu His Ser Trp Phe Pro Gly Tyr Ala Trp  
 370 375 380  
 Thr Val Ala Gln Cys Lys Ile Cys Ala Ser His Ile Gly Trp Lys Phe  
 385 390 395 400  
 Thr Ala Thr Lys Lys Asp Met Ser Pro Gln Lys Phe Trp Gly Leu Thr

405 410 415  
 Arg Ser Ala Leu Leu Pro Thr Ile Pro Asp Thr Glu Asp Glu Ile Ser  
 420 425 430  
 Pro Asp Lys Val Ile Leu Cys Leu  
 435 440

<210> 3629

<211> 695

<212> DNA

<213> Homo sapiens

<400> 3629

acgcgtcccc tgtccggctt ggtatgggtc gcgctgctag cgctaggcca cgccttcctg  
 60  
 ttcaccgggg gcgtggtgag cgctggggac caggtgtcct attttctctt cgtcatcttc  
 120  
 acggcgatg ccatgctgcc cttgggcatg cgggacgccg ccgtcgcggg cctcgctcc  
 180  
 tcactctcgc atctgctggt cctcgggctg tatcttgggc cacagccgga ctcacggcct  
 240  
 gcactgctgc cgcagttggc agcaaacgca gtgctgttcc tgtgcgggaa cgtggcagga  
 300  
 gtgtaccaca aggcgctgat ggagcgcgcc ctgcgggcca cgttcgggga ggcactcagc  
 360  
 tccctgcact cagccggcg gctggacacc gagaagaagc accaggtcag ccgggcctag  
 420  
 gaaggtcaga gcagcgtcc gagggaggag ttgcttagat tacataacgg ggctcctcca  
 480  
 caagttgagt gactctgggc aggtttcttg acctgtttct tcttttgtat aaaatgtggg  
 540  
 tattgcccac cttagaaggt tgtgaggctc aaacaaacca aagcttataa aaagcacttt  
 600  
 agagcattat gatattaagt gaactcccat tcaggtgttg atactgggag tttagtcact  
 660  
 aaaggtgatc agtgtaggat ggagtgctgg ggccc  
 695

<210> 3630

<211> 139

<212> PRT

<213> Homo sapiens

<400> 3630

Thr Arg Pro Leu Ser Gly Leu Val Trp Val Ala Leu Leu Ala Leu Gly  
 1 5 10 15  
 His Ala Phe Leu Phe Thr Gly Gly Val Val Ser Ala Trp Asp Gln Val  
 20 25 30  
 Ser Tyr Phe Leu Phe Val Ile Phe Thr Ala Tyr Ala Met Leu Pro Leu  
 35 40 45  
 Gly Met Arg Asp Ala Ala Val Ala Gly Leu Ala Ser Ser Leu Ser His  
 50 55 60  
 Leu Leu Val Leu Gly Leu Tyr Leu Gly Pro Gln Pro Asp Ser Arg Pro  
 65 70 75 80  
 Ala Leu Leu Pro Gln Leu Ala Ala Asn Ala Val Leu Phe Leu Cys Gly

	85		90		95
Asn Val Ala Gly Val Tyr His Lys Ala Leu Met Glu Arg Ala Leu Arg					
	100		105		110
Ala Thr Phe Arg Glu Ala Leu Ser Ser Leu His Ser Arg Arg Arg Leu					
	115		120		125
Asp Thr Glu Lys Lys His Gln Val Ser Arg Ala					
	130		135		

<210> 3631  
 <211> 864  
 <212> DNA  
 <213> Homo sapiens

<400> 3631  
 ngttgttggg atctggtaca ggtgctgagg cagatgcagg tagcatggag ccaaaaatgg  
 60  
 agcggctaga agagaagagg tcctggaaag gctcaaaggt gtccatgaag tccagggttag  
 120  
 gctgcaaagg aatcagtcctc ggctggatca tgtctgcatt tcccagatgt gctatttccc  
 180  
 ggggattggg cctggtacat gcagtatctg gagaagcgca agaactctgt gtgccacttt  
 240  
 gtgacacccc tggacggctc tgtggacgta gacgagcacc gccggccgga ggccatcacc  
 300  
 acggaaggga agtactggaa gagccgcacg gagattgtga tccgggagta tcacaagtgg  
 360  
 agaacctact tcaagaaaag gctacagcag cacaaggatg aggacctctc cagcctggtc  
 420  
 caggacgatg acatgctgta ttggcacaag cacggggatg gatggaagac ccccgctccc  
 480  
 atggaggagg atcccctgct ggacacagac atgctcatgt cggaattcag cgacaccctc  
 540  
 ttctccacac ttcttcaca ccagccggtg gcctggccca atcccggga aatagcacat  
 600  
 ctgggaaatg cagacatgat ccagccggga ctgattcctt tgcagcctaa cctggacttc  
 660  
 atggaacact ttgagccttt ccaggacctc ttctcttcta gccgctccat ttttggtccc  
 720  
 atgtacctg catctgctc agcacctgta ccagatccca acaaccacc tgcacaggag  
 780  
 agcatcctgc cgaccacagc cctccccact gtgagccttc ctgacagcct catcgcgccc  
 840  
 cccaccgccc catccctggc gcgc  
 864

<210> 3632  
 <211> 222  
 <212> PRT  
 <213> Homo sapiens

<400> 3632  
 Met Gln Tyr Leu Glu Lys Arg Lys Asn Pro Val Cys His Phe Val Thr  
 1 5 10 15  
 Pro Leu Asp Gly Ser Val Asp Val Asp Glu His Arg Arg Pro Glu Ala

20 25 30  
 Ile Thr Thr Glu Gly Lys Tyr Trp Lys Ser Arg Ile Glu Ile Val Ile  
 35 40 45  
 Arg Glu Tyr His Lys Trp Arg Thr Tyr Phe Lys Lys Arg Leu Gln Gln  
 50 55 60  
 His Lys Asp Glu Asp Leu Ser Ser Leu Val Gln Asp Asp Met Leu  
 65 70 75 80  
 Tyr Trp His Lys His Gly Asp Gly Trp Lys Thr Pro Val Pro Met Glu  
 85 90 95  
 Glu Asp Pro Leu Leu Asp Thr Asp Met Leu Met Ser Glu Phe Ser Asp  
 100 105 110  
 Thr Leu Phe Ser Thr Leu Ser Ser His Gln Pro Val Ala Trp Pro Asn  
 115 120 125  
 Pro Arg Glu Ile Ala His Leu Gly Asn Ala Asp Met Ile Gln Pro Gly  
 130 135 140  
 Leu Ile Pro Leu Gln Pro Asn Leu Asp Phe Met Asp Thr Phe Glu Pro  
 145 150 155 160  
 Phe Gln Asp Leu Phe Ser Ser Ser Arg Ser Ile Phe Gly Ser Met Leu  
 165 170 175  
 Pro Ala Ser Ala Ser Ala Pro Val Pro Asp Pro Asn Asn Pro Pro Ala  
 180 185 190  
 Gln Glu Ser Ile Leu Pro Thr Thr Ala Leu Pro Thr Val Ser Leu Pro  
 195 200 205  
 Asp Ser Leu Ile Ala Pro Pro Thr Ala Pro Ser Leu Ala Arg  
 210 215 220

&lt;210&gt; 3633

&lt;211&gt; 1570

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3633

ggatccatac aactgctccg cctgggtggaa tctgagagga agtcacctca tgtgtcacca  
 60  
 gcagaagggc tgaagtgaaca ggatgttcat tgacctgtca gtggatctga aagttctcta  
 120  
 aggagagcct gggcaagcat tcttaggttg atgctggggc ccagagtagc agtgagcatc  
 180  
 ctgtgtgaag atggcatttc tcaactgatta ttggaaaagc acaagagcca cgtgctggag  
 240  
 ccattgtcca gccttgcctt ggaggagcag tgtctggctt tgtccctaga ttggtccact  
 300  
 gggaaaactg gaagggccgg ggaccagccc ttgaagatca tcagcagtga ctccacaggg  
 360  
 cagctccacc tcctgatggt gaatgagacg aggccagggc tgcagaaagt ggcctcatgg  
 420  
 caggcacatc aattcgaggc ctggattgct gctttcaatt actggcatcc agaaattgtg  
 480  
 tattcagggg ggcacgatgg ccttctgagg ggctgggaca ccagggtacc cggcaaattt  
 540  
 ctcttcacca gcnaaaagac acaccatnng ggtgtgtgca gcatccagag cagccctcat  
 600  
 cgggagcaca tcctggccac gggaagctat gatgaacaca tcctactgtg ggacacacga  
 660

aacatgaagc agccgttggc agatacgct gtgcagggcg gggatatggag aatcaagtgg  
 720  
 caccctttcc accaccacct gtccttgcc gcctgcatgc acagtggctt taagatcctc  
 780  
 aatgccaaa aggcaatgga ggagaggcag gaggcgacgg tcttgacatc tcacacattg  
 840  
 cccgactgc tgggtatgg agccgactgg tcttggtgc tcttcggtc tctgcagcg  
 900  
 gccccctcgt ggtcctttcc tagcaaccta ggaaccaaga cggcagacct gaagggtgca  
 960  
 agcgagtgc caacaccctg tcatgaatgc agagaggata acgatgggga gggccatgcc  
 1020  
 agaccccaga gtggaatgaa gccactcaca gagggcatga ggaagaatgg cacctggctg  
 1080  
 caggctacag cagccaccac acgtgactgt ggcgtgaacc cagaagaagc agactcagcc  
 1140  
 ttcagcctcc tggccacctg ctccttctat gaccatgcgc tccacctctg ggagtgggag  
 1200  
 gggaaactgag cttgaaatca tgaagccct tcccacaagg aaaccaggag ggagactgcg  
 1260  
 agtgagtgc cgggaccacc tcatcagaga tgcttactgc agccctgcag gtgcctgtgc  
 1320  
 actgatggaa tccacagtgt agtcagaaaa gctgttgact tctcttaaat cagcttcct  
 1380  
 gctgggcccc tgaaagtga ctgggtgatt ctgtctggca gagagtgggg aaaagacgcg  
 1440  
 gtttcagct tgcagatttg ttaagtttct caggcagatt ttgactttca gcctttcata  
 1500  
 cttgtttaag caactatttg tattaatga agttttttga aaaaaaaaaa aaaaaaaaaa  
 1560  
 aaaaaaaaaa  
 1570

&lt;210&gt; 3634

&lt;211&gt; 277

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3634

Met	Val	Asn	Glu	Thr	Arg	Pro	Arg	Leu	Gln	Lys	Val	Ala	Ser	Trp	Gln
1				5				10						15	
Ala	His	Gln	Phe	Glu	Ala	Trp	Ile	Ala	Ala	Phe	Asn	Tyr	Trp	His	Pro
		20						25					30		
Glu	Ile	Val	Tyr	Ser	Gly	Gly	Asp	Asp	Gly	Leu	Leu	Arg	Gly	Trp	Asp
		35				40						45			
Thr	Arg	Val	Pro	Gly	Lys	Phe	Leu	Phe	Thr	Ser	Xaa	Lys	Thr	His	His
		50				55					60				
Xaa	Gly	Val	Cys	Ser	Ile	Gln	Ser	Ser	Pro	His	Arg	Glu	His	Ile	Leu
65					70				75					80	
Ala	Thr	Gly	Ser	Tyr	Asp	Glu	His	Ile	Leu	Leu	Trp	Asp	Thr	Arg	Asn
			85						90				95		
Met	Lys	Gln	Pro	Leu	Ala	Asp	Thr	Pro	Val	Gln	Gly	Gly	Val	Trp	Arg
			100					105					110		
Ile	Lys	Trp	His	Pro	Phe	His	His	His	Leu	Leu	Leu	Ala	Ala	Cys	Met

```

      115      120      125
His Ser Gly Phe Lys Ile Leu Asn Cys Gln Lys Ala Met Glu Glu Arg
      130      135      140
Gln Glu Ala Thr Val Leu Thr Ser His Thr Leu Pro Asp Ser Leu Val
145      150      155      160
Tyr Gly Ala Asp Trp Ser Trp Leu Leu Phe Arg Ser Leu Gln Arg Ala
      165      170      175
Pro Ser Trp Ser Phe Pro Ser Asn Leu Gly Thr Lys Thr Ala Asp Leu
      180      185      190
Lys Gly Ala Ser Glu Leu Pro Thr Pro Cys His Glu Cys Arg Glu Asp
      195      200      205
Asn Asp Gly Glu Gly His Ala Arg Pro Gln Ser Gly Met Lys Pro Leu
      210      215      220
Thr Glu Gly Met Arg Lys Asn Gly Thr Trp Leu Gln Ala Thr Ala Ala
225      230      235      240
Thr Thr Arg Asp Cys Gly Val Asn Pro Glu Glu Ala Asp Ser Ala Phe
      245      250      255
Ser Leu Leu Ala Thr Cys Ser Phe Tyr Asp His Ala Leu His Leu Trp
      260      265      270
Glu Trp Glu Gly Asn
      275

```

<210> 3635  
 <211> 835  
 <212> DNA  
 <213> Homo sapiens

```

<400> 3635
ngaattcaac ttcagcaaca gcagcaacag tcttgccaac acctgggatt actaactcct
60
gttggagttg gagagcagct ttctgagga gactatgcac ggttacagca agtggatcct
120
gttttactta aagatgaacc ccagcagact gctgctcaga tgggttggtgc gccaatccag
180
cctctggcga tgcctcaagc tttgcctctg gcggcaggtc ccttgctcctc aggggtccatc
240
gcaaactctta cagaactgca aggagtata gttggacagc cagtactggg ccaagcacag
300
ttggcagggc tggggcaagg aattctgaca gaaacacaac aagggttaat ggtagccagc
360
cctgctcaga ccctcaatga cacgctggat gacatcatgg cagcagtcag tggaagagca
420
tctgcaatgt caaacactcc taccacagc attgctgcat ccatttccca acctcagact
480
ccaactccaa gtctatcat ctctccttca gccatgcttc ctatctaccc tgccattgat
540
attgatgcac agactgagag taatcatgac acggcgctaa cacttgctg tgctgggtggc
600
cacgaggaac tggtacaaac actgctagag agaggagcta gtatagagca ccgagacaag
660
aaaggtttta ctccactcat cttggctgcc acagctggtc atgttggtgt tgtggaata
720
ttgctggaca atggtgcaga cattgaagcc cagtctgaaa gaaccaagga cacaccactc
780

```

tccttggtt gttctggggg aagacaggag gtggtggagc tattgttagc tcgag  
835

<210> 3636

<211> 278

<212> PRT

<213> Homo sapiens

<400> 3636

Xaa Ile Gln Leu Gln Gln Gln Gln Gln Ser Cys Gln His Leu Gly  
1 5 10 15  
Leu Leu Thr Pro Val Gly Val Gly Glu Gln Leu Ser Glu Gly Asp Tyr  
20 25 30  
Ala Arg Leu Gln Gln Val Asp Pro Val Leu Leu Lys Asp Glu Pro Gln  
35 40 45  
Gln Thr Ala Ala Gln Met Gly Cys Ala Pro Ile Gln Pro Leu Ala Met  
50 55 60  
Pro Gln Ala Leu Pro Leu Ala Ala Gly Pro Leu Pro Pro Gly Ser Ile  
65 70 75 80  
Ala Asn Leu Thr Glu Leu Gln Gly Val Ile Val Gly Gln Pro Val Leu  
85 90 95  
Gly Gln Ala Gln Leu Ala Gly Leu Gly Gln Gly Ile Leu Thr Glu Thr  
100 105 110  
Gln Gln Gly Leu Met Val Ala Ser Pro Ala Gln Thr Leu Asn Asp Thr  
115 120 125  
Leu Asp Asp Ile Met Ala Ala Val Ser Gly Arg Ala Ser Ala Met Ser  
130 135 140  
Asn Thr Pro Thr His Ser Ile Ala Ala Ser Ile Ser Gln Pro Gln Thr  
145 150 155 160  
Pro Thr Pro Ser Pro Ile Ile Ser Pro Ser Ala Met Leu Pro Ile Tyr  
165 170 175  
Pro Ala Ile Asp Ile Asp Ala Gln Thr Glu Ser Asn His Asp Thr Ala  
180 185 190  
Leu Thr Leu Ala Cys Ala Gly Gly His Glu Glu Leu Val Gln Thr Leu  
195 200 205  
Leu Glu Arg Gly Ala Ser Ile Glu His Arg Asp Lys Lys Gly Phe Thr  
210 215 220  
Pro Leu Ile Leu Ala Ala Thr Ala Gly His Val Gly Val Val Glu Ile  
225 230 235 240  
Leu Leu Asp Asn Gly Ala Asp Ile Glu Ala Gln Ser Glu Arg Thr Lys  
245 250 255  
Asp Thr Pro Leu Ser Leu Ala Cys Ser Gly Gly Arg Gln Glu Val Val  
260 265 270  
Glu Leu Leu Leu Ala Arg  
275

<210> 3637

<211> 2128

<212> DNA

<213> Homo sapiens

<400> 3637

nacgcgtgcg atccccggcg cccgcgcgcg cccatagcgc tccgccagag ctgccgccgc  
60



ggactcgccg ggagtggggg tctccgctgg tgccagcccc cttctggaga ccctccgcct  
120  
cctgccaaacc cctgctcttc caggtcgggc cccgggggttc tgcggctgtt agggacagag  
180  
gcaaagaagg gcaggacggg cgggtttccc gtggatgttc ccgcccgaga aagacagcaa  
240  
gttggtgtgtg cgcccgggac gcgggagggg aggtagccgc cgcccgccag ccatggacca  
300  
tcatctttag tgcagaggat ggaaagtga tgcccagtaa gactgaagat ccattctgca  
360  
ttacggaact gtggattatc tgtgggtccc tggtgatttc acaccttcac tcaactctgc  
420  
agtccttgaa cacttacttg gggtcctcat tgccctatct ggtgaaagat ggcatccagc  
480  
ctgacttgta ctggagtaat ctgggctttg ctgtcttttc tttgtgctgc cacctcctgc  
540  
gtgggggttct ttatgcctta ctggctctgg ggatcacagc tgggcaagcc tgtgtccttc  
600  
ggtaccttcc ggaggtgctc atatcctgtg catgatgaga gtcggcagat gatggtgatg  
660  
gtggaggaat gtgggcgcta tgctccttc cagggcatcc ccagcgaga atggaggatc  
720  
tgcaccatag tgaccggcct gggttgtggc ctctcctcc tgggtggcgt cactgccctc  
780  
atgggttgct gtgtttccga cctcatctcc aggacagtgg gaagagtggc tggaggaatt  
840  
cagtttcttg ggggcttgtt gattggtgct ggctgtgcc tctaccttc gggctgggac  
900  
agtgaaggaag tccggcagac ttgtggctac acttctggcc agtttgacct ggggaagtgt  
960  
gaaatcggtc gggcctacta ctgcacggga gcagggtgcca ctgcccacat gctgctgtgc  
1020  
acgtggctgg cttgcttttc gggcaagaaa cagaagcact acccatactg agatggagct  
1080  
accaagagca gacagaggag aagatgggccc aaaggggctt ggagagggtca aaacatccac  
1140  
ctaccttcaa aagtgaggat agtagttcta atccaataca atgctaataa aatgaaacct  
1200  
gataaaatca ggaacatgat ataggaagga aggattgtag gagattttgtg ggggaaaaaa  
1260  
aaggagagta tagaatgatg gagaaaaatg gaccaaaggc taaaaatatt gcagggcatc  
1320  
gggtgtttct attccacaga gtattgttaa tgtacaacac acacacacac acacacacac  
1380  
acacacacac acacacacaa caaatctaca tatacaaaac agggtttggg ttttagtttt  
1440  
ttttttttaa ggtgaggact cagaaaatca aagggttagt agaaacagtg ttatgttggg  
1500  
aagcaaggta ccccaaaga tgttcctgt aggtcacggc actcccaaaa gcacacaagc  
1560  
acatacagac atatgcatcc ccacacacgc ctatgcacaa acgtggatta tcgcacagac  
1620  
tgaggaggtt agtgggtgat ttctcctctg tttctttttt aatatacatt taaaatacag  
1680

tattatcact ttataaaaca tacattaagc ctaataaatg gaccaataag ccaaactatc  
 1740  
 agtattttgt atatactgca taaactctaa tttagtctct caacatattt tcagtgttta  
 1800  
 tgcagacctt tagagttaag cctttgtatt tccatgttat tccacaatat gcaatatttc  
 1860  
 tctgagtagc ttctgctatg atattcttat gaagaaaagg ggcaactttc tgtccactat  
 1920  
 aggagagaat tcagccgaag atatgagagt aatgagagac attttccagt cattggatcg  
 1980  
 tgttttcttt tgtccattat tgtactgtgc tgtaccacat ttatttctat attcattttg  
 2040  
 taaaaaattt aaaagtgcata ttttgtttgt atttgaaaat ctctgtgaat aaattctctc  
 2100  
 tttgatcaat aaaaaaaaaa aaaaaaaaa  
 2128

&lt;210&gt; 3638

&lt;211&gt; 200

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3638

Met	Ala	Ser	Ser	Leu	Thr	Cys	Thr	Gly	Val	Ile	Trp	Ala	Leu	Leu	Ser
1				5					10					15	
Phe	Leu	Cys	Ala	Ala	Thr	Ser	Cys	Val	Gly	Phe	Phe	Met	Pro	Tyr	Trp
			20					25					30		
Leu	Trp	Gly	Ser	Gln	Leu	Gly	Lys	Pro	Val	Ser	Phe	Gly	Thr	Phe	Arg
		35					40					45			
Arg	Cys	Ser	Tyr	Pro	Val	His	Asp	Glu	Ser	Arg	Gln	Met	Met	Val	Met
	50					55					60				
Val	Glu	Glu	Cys	Gly	Arg	Tyr	Ala	Ser	Phe	Gln	Gly	Ile	Pro	Ser	Ala
65					70					75					80
Glu	Trp	Arg	Ile	Cys	Thr	Ile	Val	Thr	Gly	Leu	Gly	Cys	Gly	Leu	Leu
			85						90					95	
Leu	Leu	Val	Ala	Leu	Thr	Ala	Leu	Met	Gly	Cys	Cys	Val	Ser	Asp	Leu
			100					105					110		
Ile	Ser	Arg	Thr	Val	Gly	Arg	Val	Ala	Gly	Gly	Ile	Gln	Phe	Leu	Gly
		115					120						125		
Gly	Leu	Leu	Ile	Gly	Ala	Gly	Cys	Ala	Leu	Tyr	Pro	Leu	Gly	Trp	Asp
	130					135						140			
Ser	Glu	Glu	Val	Arg	Gln	Thr	Cys	Gly	Tyr	Thr	Ser	Gly	Gln	Phe	Asp
145					150					155					160
Leu	Gly	Lys	Cys	Glu	Ile	Gly	Trp	Ala	Tyr	Tyr	Cys	Thr	Gly	Ala	Gly
			165						170					175	
Ala	Thr	Ala	Ala	Met	Leu	Leu	Cys	Thr	Trp	Leu	Ala	Cys	Phe	Ser	Gly
			180					185					190		
Lys	Lys	Gln	Lys	His	Tyr	Pro	Tyr								
		195					200								

&lt;210&gt; 3639

&lt;211&gt; 726

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3639

attcggcaag agattctgga caatttttct ttatacttta atgagtgtgc gtttctctta  
 60  
 aagaataagc tttaatatat atacacccat aataccttca aatacatttt taagcactta  
 120  
 aagactaaca gtggttatct ctcagcggga ttataaatgt tttggttttt tttttttttt  
 180  
 tgtacatttt agtatttttt gaaatttttt taataagcgt gtattacata cagtaaacia  
 240  
 aagcacatta atgtaggcag attatcaatg ttatgcattt cactgattgc atatctcttt  
 300  
 ttttatcaat ggtgaacatt gcaaatgatt gatacgtttt tcttaggaag tggcattgcc  
 360  
 acaaatgggt tttccaacac cagcagggcc tgagagtgtc atcaccatac actcttgccg  
 420  
 gcaataaaaa aatttcacct tttaatggat ttaaaaggga aaagttgggg tgttgggttc  
 480  
 tccagggcat ttctttcatt atgagtgtga tttttctgaa aggaacgtga tctcgttttc  
 540  
 tagccgcatg aagcatttct ccaacaagac ccactgtacc agtcctggga tctccacacc  
 600  
 tgtgccttct ccctgtcttt tctaggtcct gattctcacc tctgcctgtg taataaccct  
 660  
 gtcatttctc ccttatccca gttccatgtc tgtgacaagc ttggaggccg agttgcaagc  
 720  
 taagat  
 726

&lt;210&gt; 3640

&lt;211&gt; 102

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3640

Met	Leu	His	Ala	Ala	Arg	Lys	Arg	Asp	His	Val	Pro	Phe	Arg	Lys	Met
1				5					10					15	
Ser	Leu	Ile	Met	Lys	Glu	Met	Pro	Trp	Arg	Thr	Gln	His	Pro	Asn	Phe
			20					25					30		
Ser	Leu	Leu	Asn	Pro	Leu	Lys	Gly	Glu	Ile	Phe	Leu	Leu	Pro	Ala	Arg
		35					40					45			
Val	Tyr	Gly	Asp	Asp	Thr	Leu	Arg	Pro	Cys	Trp	Cys	Trp	Lys	Asn	His
	50					55				60					
Leu	Trp	Gln	Cys	His	Phe	Leu	Arg	Lys	Thr	Tyr	Gln	Ser	Phe	Ala	Met
65					70					75					80
Phe	Thr	Ile	Asp	Lys	Lys	Arg	Asp	Met	Gln	Ser	Val	Lys	Cys	Ile	Thr
			85						90					95	
Leu	Ile	Ile	Cys	Leu	His										
				100											

&lt;210&gt; 3641

&lt;211&gt; 455

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<400> 3641  
 gtgcaccagc tatggcgag ccgctcgcc tcgccccttc ccgccgaccg ggccaactgc  
 60  
 cgcgggggag ggccggcggt ggcgctcccg gagcgagga aatgtcgag agccccgagg  
 120  
 agtccccgag cagtcacgag agccgggacc ttgccccgct ggaacgcaga agcggccgtg  
 180  
 gagctcgaga cgctcgcgag ctacacctct gggcccctgt gcgtggggaa gtcaggaaga  
 240  
 agacgccgag tgaggtcacg gtgcccacga ggggtggattc ccctcgccct gaccacgcca  
 300  
 ggaggtggcc gaagggaaga ggggtgggca ggggctgctc tgcaccctct agcagagcgg  
 360  
 catccctgca ggtgtttgct ctggcgagga gaagccccag agagcagttc gggactgtgc  
 420  
 ggattggctt tagggagcca gcttttaaaa cgcgt  
 455

<210> 3642  
 <211> 148  
 <212> PRT  
 <213> Homo sapiens

<400> 3642  
 Met Ala Gln Pro Leu Val Leu Ala Pro Ser Arg Arg Pro Gly Gln Leu  
 1 5 10 15  
 Pro Arg Gly Arg Ala Gly Gly Ala Ala Pro Gly Gly Glu Glu Met Ser  
 20 25 30  
 Gln Ser Pro Glu Glu Ser Arg Ser Ser His Ala Ser Arg Asp Leu Ala  
 35 40 45  
 Pro Leu Glu Arg Arg Ser Gly Arg Gly Ala Arg Asp Ala Arg Ala Leu  
 50 55 60  
 Thr Ser Trp Ala Pro Val Arg Gly Glu Val Arg Lys Lys Thr Pro Ser  
 65 70 75 80  
 Glu Val Thr Val Pro Thr Arg Val Asp Ser Pro Arg Pro Asp His Ala  
 85 90 95  
 Arg Arg Trp Pro Lys Gly Arg Gly Trp Gly Arg Gly Cys Ser Ala Pro  
 100 105 110  
 Ser Ser Arg Ala Ala Ser Leu Gln Val Phe Ala Leu Ala Arg Arg Ser  
 115 120 125  
 Pro Arg Glu Gln Phe Gly Thr Val Arg Ile Gly Phe Arg Glu Pro Ala  
 130 135 140  
 Phe Lys Thr Arg  
 145

<210> 3643  
 <211> 2243  
 <212> DNA  
 <213> Homo sapiens

<400> 3643  
 nngggtatag agtctccctg gcccataata ggtctccact attggctggt ggagcgcttc  
 60

ttcaagatct tccactgct gggtttgc at gaggaggat taagaaagt ctcggagta  
120  
ctttgcaagc aggtggccag taaagctgag gagaatctgc tcatgggtgct ggggacagac  
180  
atgagtgatc ggagagctgc agtcatcttt gcagatacac ttactcttct gtttgaaggg  
240  
attgcccgc tttgtggagac ccaccagcca atagtggaga cctattatgg gccagggaga  
300  
ctctataccc tgatcaaata tctgcagggtg gaatgtgaca gacagggtgga gaagggtgta  
360  
gacaagttca tcaagcaaag ggactaccac cagcagttcc ggcatgttca gaacaacctg  
420  
atgagaaatt ctacaacaga aaaaatcgaa ccaagagaac tggaccccat cctgactgag  
480  
gtcaccctga tgaatgccg cagtgaagct tacttacgct tcctcaagaa gaggattagc  
540  
tctgattttg aggtgggaga ctccatggcc tcagaggaag taaagcaaga gcaccagaag  
600  
tgtctggaca aactcctcaa taactgcctt ttgagctgta ccatgcagga gctaattggc  
660  
ttatatgtta ccatggagga gtacttcatg agggagactg tcaataaggc tgtggctctg  
720  
gacacctatg agaagggcca gctgacatcc agcatgggtg atgatgtctt ctacattgtt  
780  
aagaagtgca ttgggcccgc tctgtccagc tccagcattg actgtctctg tgccatgatc  
840  
aacctcgcca ccacagagct ggagtctgac ttcagggtatg ttctgtgtaa taagctgcgg  
900  
atgggctttc ctgccaccac cttccaggac atccagcgcg gggtgacaag tgccgtgaac  
960  
atcatgcaca gcagcctcca gcaaggcaaa ttgacacaa aaggcatcga gactactgac  
1020  
gaggcgaaga tgccttctt ggtgactctg aacaacgtgg aagtctgcag tgaaaacatc  
1080  
tccactctga agaagacact ggagagtgc tgcaccaagc tcttcagcca gggcattgga  
1140  
ggggagcagg cccaggccaa gtttgacagc tgcctttctg acttgccgc cgtgtccaac  
1200  
aaattccgag acctcttgca ggaagggctg acggagctca acagcacagc catcaagcca  
1260  
caggtgcagc cttggatcaa cagcttttcc tccgtctccc acaacatcga ggaggaagaa  
1320  
ttcaatgact atgaggccaa cgacccttgg gtacaacagt tcctccttaa cctggagcag  
1380  
caaatggcag agttcaaggc cagcctgtcc cgggtcatct acgacagcct aaccggcctc  
1440  
atgactagcc ttgttgccgt cgagttggag aaagtgggtg tgaaatccac cttaaccgg  
1500  
ctgggtggtc tgcagtttga caaggagctg aggtcactca ttgcctacct taccaggtg  
1560  
accacctgga ccatccgaga caagtttgcc cggctctccc agatggccac catcctcaat  
1620  
ctggagcggg tgaccgagat cctcgattac tggggaccca attccggccc attgacgtgg  
1680

cgcctcacc ctgctgaagt gcgccaggtg ctggccctgc ggatagactt ccgcagtga  
 1740  
 gatatacaaga ggctgcgcct gtagctgcct ggatgagcac acctggctca tcacacttgc  
 1800  
 aggcctgttc cctaaggggc cccagccaag gagctgagcg aggctgtctg gcttggggga  
 1860  
 gatctgacag cccagacctt tctacggctg gcagcagaga aacaaagtct ggaccctc  
 1920  
 catgctctgc cctcagacct ggccaggtga tgctctgggg gcagcatctc cccaccgaga  
 1980  
 gaagcgggct cctaatagagg tgggaaagcc acggcaggca gcgagcagcc caggccagct  
 2040  
 ttctgcatgg atggtcagtc tcttgccctc aaactactaca gcaacaagc taccctgccc  
 2100  
 agtccttagac aacttgggta catctgggga cctagcagtt aggcttgact ttgaggagag  
 2160  
 gctgtgatgt ttatgatccc tgaataaagc tactccttgg agaaaaaaaa aaaaaaaaaa  
 2220  
 aaaaaaaaaa aaaaaaaaaa aaa  
 2243

&lt;210&gt; 3644

&lt;211&gt; 560

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3644

Gly	Leu	His	Glu	Glu	Gly	Leu	Arg	Lys	Phe	Ser	Glu	Tyr	Leu	Cys	Lys
1				5					10					15	
Gln	Val	Ala	Ser	Lys	Ala	Glu	Glu	Asn	Leu	Leu	Met	Val	Leu	Gly	Thr
			20					25					30		
Asp	Met	Ser	Asp	Arg	Arg	Ala	Ala	Val	Ile	Phe	Ala	Asp	Thr	Leu	Thr
		35					40					45			
Leu	Leu	Phe	Glu	Gly	Ile	Ala	Arg	Ile	Val	Glu	Thr	His	Gln	Pro	Ile
	50					55				60					
Val	Glu	Thr	Tyr	Tyr	Gly	Pro	Gly	Arg	Leu	Tyr	Thr	Leu	Ile	Lys	Tyr
65					70					75				80	
Leu	Gln	Val	Glu	Cys	Asp	Arg	Gln	Val	Glu	Lys	Val	Val	Asp	Lys	Phe
				85						90				95	
Ile	Lys	Gln	Arg	Asp	Tyr	His	Gln	Gln	Phe	Arg	His	Val	Gln	Asn	Asn
			100					105					110		
Leu	Met	Arg	Asn	Ser	Thr	Thr	Glu	Lys	Ile	Glu	Pro	Arg	Glu	Leu	Asp
		115					120					125			
Pro	Ile	Leu	Thr	Glu	Val	Thr	Leu	Met	Asn	Ala	Arg	Ser	Glu	Leu	Tyr
	130					135					140				
Leu	Arg	Phe	Leu	Lys	Lys	Arg	Ile	Ser	Ser	Asp	Phe	Glu	Val	Gly	Asp
145				150						155				160	
Ser	Met	Ala	Ser	Glu	Glu	Val	Lys	Gln	Glu	His	Gln	Lys	Cys	Leu	Asp
			165						170					175	
Lys	Leu	Leu	Asn	Asn	Cys	Leu	Leu	Ser	Cys	Thr	Met	Gln	Glu	Leu	Ile
			180					185					190		
Gly	Leu	Tyr	Val	Thr	Met	Glu	Glu	Tyr	Phe	Met	Arg	Glu	Thr	Val	Asn
		195				200						205			
Lys	Ala	Val	Ala	Leu	Asp	Thr	Tyr	Glu	Lys	Gly	Gln	Leu	Thr	Ser	Ser

210	215	220
Met Val Asp Asp Val Phe Tyr Ile Val Lys Lys Cys Ile Gly Arg Ala		
225	230	235
Leu Ser Ser Ser Ser Ile Asp Cys Leu Cys Ala Met Ile Asn Leu Ala		240
	245	250
Thr Thr Glu Leu Glu Ser Asp Phe Arg Asp Val Leu Cys Asn Lys Leu		255
	260	265
Arg Met Gly Phe Pro Ala Thr Thr Phe Gln Asp Ile Gln Arg Gly Val		270
	275	280
Thr Ser Ala Val Asn Ile Met His Ser Ser Leu Gln Gln Gly Lys Phe		285
	290	295
Asp Thr Lys Gly Ile Glu Ser Thr Asp Glu Ala Lys Met Ser Phe Leu		300
305	310	315
Val Thr Leu Asn Asn Val Glu Val Cys Ser Glu Asn Ile Ser Thr Leu		320
	325	330
Lys Lys Thr Leu Glu Ser Asp Cys Thr Lys Leu Phe Ser Gln Gly Ile		335
	340	345
Gly Gly Glu Gln Ala Gln Ala Lys Phe Asp Ser Cys Leu Ser Asp Leu		350
	355	360
Ala Ala Val Ser Asn Lys Phe Arg Asp Leu Leu Gln Glu Gly Leu Thr		365
	370	375
Glu Leu Asn Ser Thr Ala Ile Lys Pro Gln Val Gln Pro Trp Ile Asn		380
385	390	395
Ser Phe Phe Ser Val Ser His Asn Ile Glu Glu Glu Phe Asn Asp		400
	405	410
Tyr Glu Ala Asn Asp Pro Trp Val Gln Gln Phe Ile Leu Asn Leu Glu		415
	420	425
Gln Gln Met Ala Glu Phe Lys Ala Ser Leu Ser Pro Val Ile Tyr Asp		430
	435	440
Ser Leu Thr Gly Leu Met Thr Ser Leu Val Ala Val Glu Leu Glu Lys		445
	450	455
Val Val Leu Lys Ser Thr Phe Asn Arg Leu Gly Gly Leu Gln Phe Asp		460
465	470	475
Lys Glu Leu Arg Ser Leu Ile Ala Tyr Leu Thr Thr Val Thr Thr Trp		480
	485	490
Thr Ile Arg Asp Lys Phe Ala Arg Leu Ser Gln Met Ala Thr Ile Leu		495
	500	505
Asn Leu Glu Arg Val Thr Glu Ile Leu Asp Tyr Trp Gly Pro Asn Ser		510
	515	520
Gly Pro Leu Thr Trp Arg Leu Thr Pro Ala Glu Val Arg Gln Val Leu		525
	530	535
Ala Leu Arg Ile Asp Phe Arg Ser Glu Asp Ile Lys Arg Leu Arg Leu		540
545	550	555
		560

&lt;210&gt; 3645

&lt;211&gt; 823

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3645

acgcgtacat gggcaggtgg tagcggttat agtgcaggta gtcaagagtg cttctctcca  
60  
ccagggtttt gtagatggat tcctcaaaaa ctcttttgag gtattgcctg ggcttctcag  
120

tcgggttgat ttcctcatct tctatttgat gggctaactg ctctatggaa ggaagatctt  
 180  
 cctcctcctt ggaggctaag atttggcgta actctttcct gagatcaata aaacgatcgt  
 240  
 ggaacagggc caggcaccac ggctcgggtga agtagctata gagatctgtg atcagggtttt  
 300  
 catcgtaccg agcacacagg ttgttgagga gttgctcgtg ctggccaaac aagcggatgt  
 360  
 agttggaggc ggggaagggc tccctagaaa ggcacgtgat ggtttccacc attttatact  
 420  
 tgtaatatg aattcggaag taagtcccat ttttcgcact gccggttact agttctaaac  
 480  
 cataattagg ctgggccatt tgtacctcca agggagttgg aatggcaggc ttggcaatat  
 540  
 gcagataatg gtaagaccca ggaagaatgc ccccttgaat cttggctccc ttgtacatgg  
 600  
 ggatgagccg gtcaagatta gctggtggct cggtcacagg ctcaagggtt ggatcaaaga  
 660  
 gatgtagcat agctgctgcc agctgaaagc caatttcttt ggaactgaag ttgctggtgg  
 720  
 gccattcat ttgagtagta tctattggag aatttgggtga gggagccagc agctctgatg  
 780  
 gctatgtcgt tgggtgtggaa gttggtatca atcacaagtc gac  
 823

&lt;210&gt; 3646

&lt;211&gt; 243

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3646

Met	Asn	Gly	Pro	Thr	Ser	Asn	Phe	Ser	Ser	Lys	Glu	Ile	Gly	Phe	Gln
1				5					10					15	
Leu	Ala	Ala	Ala	Met	Leu	His	Leu	Phe	Asp	Pro	Thr	Leu	Glu	Pro	Val
			20					25					30		
Thr	Glu	Pro	Pro	Ala	Asn	Leu	Asp	Arg	Leu	Ile	Pro	Met	Tyr	Lys	Gly
	35					40					45				
Ala	Lys	Ile	Gln	Gly	Gly	Ile	Leu	Pro	Gly	Ser	Tyr	His	Tyr	Leu	His
	50					55				60					
Ile	Ala	Lys	Pro	Ala	Ile	Pro	Thr	Pro	Leu	Glu	Val	Gln	Met	Ala	Gln
65					70				75				80		
Pro	Asn	Tyr	Gly	Leu	Glu	Leu	Val	Thr	Gly	Ser	Ala	Lys	Asn	Gly	Thr
			85					90					95		
Tyr	Phe	Arg	Ile	His	Ile	Asn	Lys	Tyr	Lys	Met	Val	Glu	Thr	Ile	Thr
	100						105					110			
Cys	Leu	Ser	Arg	Glu	Pro	Phe	Pro	Ala	Ser	Asn	Tyr	Ile	Arg	Leu	Phe
	115					120					125				
Gly	Gln	His	Glu	Gln	Leu	Leu	Asn	Asn	Leu	Cys	Ala	Arg	Tyr	Asp	Glu
	130					135				140					
Asn	Leu	Ile	Thr	Asp	Leu	Tyr	Ser	Tyr	Phe	Thr	Glu	Pro	Trp	Cys	Leu
145					150				155				160		
Ala	Leu	Phe	His	Asp	Arg	Phe	Ile	Asp	Leu	Arg	Lys	Glu	Leu	Arg	Gln
			165					170				175			
Ile	Leu	Ala	Ser	Lys	Glu	Glu	Glu	Asp	Leu	Pro	Ser	Ile	Glu	Gln	Leu



2801

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3649

```

naaaaataat gcagacataa aatgaaaaaa gattgaagat tgttacagag aaataggtga
60
ggaagcatga tactgaaggc ttgtcactcc tgttttcact tccacacaga caagcatatt
120
tgctcattgt ttgctgtgct cccctttttt tttcaggttg ctatttctgc agatgtcaaa
180
gaagttctgt taactgatgg gaatgaaaag gccatcagaa atgtgcaaga catcatcaca
240
aggaatcaga aggctggtgt gtttaagacc cagaaaatat caagctgcgt tttacgatgg
300
gataatgaga cagatgtctc tcaactggaa ggacattttg acattgttat gtgtgctgac
360
tgctgtttc tggaccagta cagagccagc ctgtttgatg caataaagag attactccag
420
cccaggggga aagcgatggt atttgcccca cgccgagggg atactttaaa ccagttttgc
480
aatctagctg aaaaagctgg tttctgtatc caaagacatg aaaattatga tgaacacatt
540
tcaaacttcc actccaagtt gaaaaaggaa aaccgggaca tatatgaaga aaaccttcat
600
taccgcctc tgcttatttt gaccaaacat ggatagaaga ttaagctt
648

```

&lt;210&gt; 3650

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3650

```

Met Ile Leu Lys Ala Cys His Ser Cys Phe His Phe His Thr Asp Lys
 1             5             10             15
His Ile Cys Ser Leu Phe Ala Val Leu Pro Phe Phe Phe Gln Val Ala
      20             25             30
Ile Ser Ala Asp Val Lys Glu Val Leu Leu Thr Asp Gly Asn Glu Lys
      35             40             45
Ala Ile Arg Asn Val Gln Asp Ile Ile Thr Arg Asn Gln Lys Ala Gly
      50             55             60
Val Phe Lys Thr Gln Lys Ile Ser Ser Cys Val Leu Arg Trp Asp Asn
65             70             75             80
Glu Thr Asp Val Ser Gln Leu Glu Gly His Phe Asp Ile Val Met Cys
      85             90             95
Ala Asp Cys Leu Phe Leu Asp Gln Tyr Arg Ala Ser Leu Val Asp Ala
      100            105            110
Ile Lys Arg Leu Leu Gln Pro Arg Gly Lys Ala Met Val Phe Ala Pro
      115            120            125
Arg Arg Gly Asn Thr Leu Asn Gln Phe Cys Asn Leu Ala Glu Lys Ala
      130            135            140
Gly Phe Cys Ile Gln Arg His Glu Asn Tyr Asp Glu His Ile Ser Asn
145            150            155            160
Phe His Ser Lys Leu Lys Lys Glu Asn Pro Asp Ile Tyr Glu Glu Asn

```

165 170 175  
 Leu His Tyr Pro Pro Leu Leu Ile Leu Thr Lys His Gly  
 180 185

<210> 3651

<211> 2469

<212> DNA

<213> Homo sapiens

<400> 3651

ggctgtaccg gaacgtgggg cgaggcgctg ttcataaag aaaaagggtt cttttgggtca  
 60  
 cccaccactg gcccacatggc tgccgtgcag atggatcctg agctagccaa gcgcctcttc  
 120  
 tttgaagggg ccaactgtggt catcctgaac atgcccagg gaacagagtt tgggattgac  
 180  
 tataactcct gggaggtcgg gcccaagttc cggggcggtga agatgatccc tccaggcatc  
 240  
 cacttcctcc actacagctc tgtggacaag gctaatacga aggaagtagg ccctcgtagt  
 300  
 ggttttcttc ttagcctgca ccagcggggg ctgacagtgc tgcgctggag cacactcagg  
 360  
 gaagaggtag acctgtcccc agccccagag tctgaggtgg aggccatgag ggccaacctc  
 420  
 caggagctgg accagttcct ggggccttac ccatatgcca ccctgaagaa gtggatctca  
 480  
 ctacaccaact tcatcagcga agccacagtg gagaagctac agcccgagaa tcgacagatc  
 540  
 tgtgcctttt ccgatgtgct acctgtgctc tccatgaagc acaccaagga ccgctggggg  
 600  
 cagaatctac cccgctgtgg cattgagtgc aaaagctacc aagagggcct ggcccggcta  
 660  
 ccagagatga agcccagagc cgggacagag atccgcttct cagagctgcc caccgcatg  
 720  
 ttcccagagg gtgccacgcc agctgagata accaagcaca gcatggacct gagctatgcc  
 780  
 ctggagactg tgctcatcaa gcagttcccc agcagcccc aggatgtgct tggatgaactc  
 840  
 cagtttgctt ttgtgtgctt cctgctgggg aatgtgtacg aggcatttga gcattggaag  
 900  
 cggctcctgc acctcctgtg ccggtcagaa gcagccatga tgaagcacca caccctctac  
 960  
 atcaacctca tgtccatcct gtaccaccag cttggtgaga tccccgctga cttcttcgta  
 1020  
 gacattgtct cccaagacaa cttcctcacc agcaccttac aggttttctt ttctctgcc  
 1080  
 tgacgcattg ccgtggatgc caccctgaga aagaaagctg aaaagtcca agctcacctg  
 1140  
 accaagaagt tccggtggga ctttctgctg gaacctgagg actgtgcccc ggtgggtggtg  
 1200  
 gagtcctctg agggcatcga gatgggctaa ctgggggagc gctctcagct gcgagggggc  
 1260  
 ctttcccaca gggctgcagt cctggcctct ccatttactt cttcccatcc tgggacctgc  
 1320

cagggcagca atctctccag gtccctgcaaa gatggagcca gaattccctt ttctactgat  
 1380  
 aaatatatatt cttcattgcc aaagaggctg taccatcctt gaaggcacat ttgtgggttc  
 1440  
 cccatcagcc aggccttggg gctaacctgg ctgaatttca cacaggctct tacacacaca  
 1500  
 cgctcctagg agacatctgc ctacacggca accatatttc ctctgaatga gaaggaattg  
 1560  
 aaccaaaagt ccaagaaaga actgattgtt tgttccatag gagcttagga aacaagaaac  
 1620  
 cctggattgc ccaggggggc tgagaagttg gttggtgact ttttttgcgg ttaaataaag  
 1680  
 ggtgatgggg agatcagccc gaattgccgc ctgcctcttg ctaaataagga gcagaggact  
 1740  
 tggcctgcag ctccctggga gcccttgatt ggggaagagag tttcaaggga ggcagctgga  
 1800  
 ttcaatctag cagggtgtca gcttcagctt tctccatcga aatcccatc tctgtccag  
 1860  
 aggcccagtg ggtcatctcc caagggtggg gtggaccctg gcctcagagg ccttgctggg  
 1920  
 gctgtcacct cccacctgtt ccattccgag gcctcaccca gaagtgggac cctccccttc  
 1980  
 ctcaccagag ccaccgtgac tgtttctgat gacctggaga gtcaacaaca accagaaagg  
 2040  
 tttctgccc gagcaggctt ctttaaggct ttacgaagtt ttgtgccttc caagtgtga  
 2100  
 agaagacctg gtcagcctaa atcttcccag tcccgtgtg gagctgtcag tcaccggagt  
 2160  
 aatgagctcc tggttcctcg ggagtccttc gtgctgtgtg gcagggttcc tctctagaca  
 2220  
 agtacacagg ccctgccacc ctgacatcaa actgttgtac tatgatcaca gtcctgtgac  
 2280  
 catccttttc caagactggg gctcacacca tgtttttgaa tgagaatccc tgctggttga  
 2340  
 gacttttget tccacttgtt tccttgagga tgtttttcca agagcataat gtacattaaa  
 2400  
 gtcttcgagt tgagacaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2460  
 aaaaaaaaaa  
 2469

&lt;210&gt; 3652

&lt;211&gt; 384

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3652

Met	Ala	Ala	Val	Gln	Met	Asp	Pro	Glu	Leu	Ala	Lys	Arg	Leu	Phe	Phe
1				5					10					15	
Glu	Gly	Ala	Thr	Val	Val	Ile	Leu	Asn	Met	Pro	Lys	Gly	Thr	Glu	Phe
				20				25					30		
Gly	Ile	Asp	Tyr	Asn	Ser	Trp	Glu	Val	Gly	Pro	Lys	Phe	Arg	Gly	Val
		35					40				45				
Lys	Met	Ile	Pro	Pro	Gly	Ile	His	Phe	Leu	His	Tyr	Ser	Ser	Val	Asp

```

      50              55              60
Lys Ala Asn Pro Lys Glu Val Gly Pro Arg Met Gly Phe Phe Leu Ser
65              70              75              80
Leu His Gln Arg Gly Leu Thr Val Leu Arg Trp Ser Thr Leu Arg Glu
      85              90              95
Glu Val Asp Leu Ser Pro Ala Pro Glu Ser Glu Val Glu Ala Met Arg
      100              105              110
Ala Asn Leu Gln Glu Leu Asp Gln Phe Leu Gly Pro Tyr Pro Tyr Ala
      115              120              125
Thr Leu Lys Lys Trp Ile Ser Leu Thr Asn Phe Ile Ser Glu Ala Thr
      130              135              140
Val Glu Lys Leu Gln Pro Glu Asn Arg Gln Ile Cys Ala Phe Ser Asp
145              150              155              160
Val Leu Pro Val Leu Ser Met Lys His Thr Lys Asp Arg Val Gly Gln
      165              170              175
Asn Leu Pro Arg Cys Gly Ile Glu Cys Lys Ser Tyr Gln Glu Gly Leu
      180              185              190
Ala Arg Leu Pro Glu Met Lys Pro Arg Ala Gly Thr Glu Ile Arg Phe
      195              200              205
Ser Glu Leu Pro Thr Gln Met Phe Pro Glu Gly Ala Thr Pro Ala Glu
      210              215              220
Ile Thr Lys His Ser Met Asp Leu Ser Tyr Ala Leu Glu Thr Val Leu
225              230              235              240
Ile Lys Gln Phe Pro Ser Ser Pro Gln Asp Val Leu Gly Glu Leu Gln
      245              250              255
Phe Ala Phe Val Cys Phe Leu Leu Gly Asn Val Tyr Glu Ala Phe Glu
      260              265              270
His Trp Lys Arg Leu Leu His Leu Leu Cys Arg Ser Glu Ala Ala Met
      275              280              285
Met Lys His His Thr Leu Tyr Ile Asn Leu Met Ser Ile Leu Tyr His
      290              295              300
Gln Leu Gly Glu Ile Pro Ala Asp Phe Phe Val Asp Ile Val Ser Gln
305              310              315              320
Asp Asn Phe Leu Thr Ser Thr Leu Gln Val Phe Phe Ser Ser Ala Cys
      325              330              335
Ser Ile Ala Val Asp Ala Thr Leu Arg Lys Lys Ala Glu Lys Phe Gln
      340              345              350
Ala His Leu Thr Lys Lys Phe Arg Trp Asp Phe Ala Ala Glu Pro Glu
      355              360              365
Asp Cys Ala Pro Val Val Val Glu Leu Pro Glu Gly Ile Glu Met Gly
      370              375              380

```

&lt;210&gt; 3653

&lt;211&gt; 283

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3653

ncaaagagca aggggtggatg ccccaggcca gcccaggagc ttggcgccac tggaggaagt  
60

gcattatacc aatcagagct tcttttgctg ctgctgaaat ggaacggtgc catcaggccg  
120

tcttctccac tggagatgct ccttcagctc agcaggacgc tagctcggaa ctcagactgc  
180

acattttttgc ggattgggag gagggccgac gccgtggccg gatagtctct ggagctgcct  
 240  
 tttgggggtg tttgctgtt ggcattttca gtactccacg cgt  
 283

<210> 3654  
 <211> 88  
 <212> PRT  
 <213> Homo sapiens

<400> 3654  
 Met Pro Gln Ala Ser Pro Gly Ala Trp Arg His Trp Arg Lys Cys Ile  
 1 5 10 15  
 Ile Pro Ile Arg Ala Ser Phe Ala Ala Glu Met Glu Arg Cys His  
 20 25 30  
 Gln Ala Val Phe Ser Thr Gly Asp Ala Pro Ser Ala Gln Gln Asp Ala  
 35 40 45  
 Ser Ser Glu Leu Arg Leu His Ile Phe Ala Asp Trp Glu Glu Gly Arg  
 50 55 60  
 Arg Arg Gly Arg Ile Val Ser Gly Ala Ala Phe Trp Gly Cys Leu Pro  
 65 70 75 80  
 Val Gly Ile Phe Ser Thr Pro Arg  
 85

<210> 3655  
 <211> 3477  
 <212> DNA  
 <213> Homo sapiens

<400> 3655  
 nttttttttt tttttttttt tttttttttt tttttttttt ttttgactg attcagactt  
 60  
 taatggaggt gctcatttca atgccacaga ggtggtggca actgtggaac gtggcatggg  
 120  
 gagtggaggg ttgctctggt gcagctggag gaagaacagg gaacctaggg ttggggagag  
 180  
 atgtatagag gaaaactccc ccaggcacac agcctccgct ctggaccaac gcaggcttca  
 240  
 gtgagtacac acaaaggaac tgatgtcaag gccctttcta tgacccttcc cattctagca  
 300  
 agacctccca cccagtcac cttgggatct acagccacat gaaatacaga cacatcgttc  
 360  
 cccaagtca ggccagtttt aggccattga gttatgggga aatgattaat gggatgaatg  
 420  
 aaaaacaaat aaaataaata aataaataaa tacactaaag ccttattagc caggcgtgat  
 480  
 cacatgcccc aactccctt ccattcccagc actatgcaca gttcacggct catatgcaaa  
 540  
 gtggaagaca cgtgggacaa gagcaaagca caagtgcac atggtccttc tetaacacct  
 600  
 cagcacacca accctgacgc tcccatcaca gatgctgac attcttccac ggacccccctt  
 660  
 ttataataat cctcattcac atttctagtt tctgagggaa gagagaaaga gaaaggaaga  
 720

agtggaaagt gcggaacccc aatgagtagg gcacagaaag gagggcgagc agagacagca  
780  
agaggtcagg taagccaagg agcagcggag caggtcaatc agggaagttc tggggaccct  
840  
ggggctcagg ggatctcagg ggggtgaacta tcacagatca ggacagcaag gttccaggag  
900  
gatgagacag aggttccacg tctccaggca agcagaggaa tcacagcaca ctgggattac  
960  
ggaacttgcg tccagcaaac ttagccttgc tgcccaagag cctcttcaat tctgaggagt  
1020  
tggttgattt tggccagacg ctccgagcgg cagggggcac cagtcttgat ctgtcctgtg  
1080  
cagagcccca ccacaaggtc agcaatgaat gtgtcctcag tctccccaga gcggtggctc  
1140  
accatcacc cccagccatt ctctggggc agcttgacg cctgaagaga ctcggtcacg  
1200  
gagccgatct ggttgacttt gagcaggagg cagttgcagg ccttctcggt cacggcccgc  
1260  
tcaatacggt ttgggttggt cactgtgaga tcatcccca caatctggat tcctacattg  
1320  
gctgtgaact tctgccaagc tccccaatca tcttggtcaa atgggtcctc aatggagacc  
1380  
actgggtagt cctgacaaa gtcttggtag agtgcccca gctgggtccc agtgatgtac  
1440  
ctgctggggg cagtgggaga cttgaagtcc aagtcattt tgccatcacg ataaaactcg  
1500  
gaggcagcaa catccatgcc gatgacaacc tggtcagtgt agccggcctt tgcgattgca  
1560  
gtcttcacca gctccagtgc ttctttgttc tccaggatgt taggtgcgaa tccaccttca  
1620  
tcacccacat tgggtggcat ctctccgtac ttctccttga tgacccctt gagtgtatgg  
1680  
tagacctctg cacctagtcg catggcttcc ttgaaggagc tgggtccac aggcagaatc  
1740  
atgaactcct gcatggccag cttgtttcca gcatgggagc ccccgttgat cacattgaag  
1800  
gctggcactg ggagtatgag gtcagggttc ccagccaagt cagcgatgtg gcggtacagg  
1860  
gggacccctt tctcaaaggc tgttgagcac atcaataaaa ctattgcgc tgccctgggt  
1920  
agcaagaaac tgaacgtcac agaacaagag aagattgaca aactgatgat cgagatggat  
1980  
ggaacagaaa ataaatctaa gtttggtgcg aacgccattc tgggggtgtc ccttgccgtc  
2040  
tgcaaagctg gtgccgttga gaagggggtc ccctgtacc gccacatcgc tgacttggct  
2100  
ggcaactctg aagtcactct gccagtcccg gcgttcaatg tcatcaatgg cgttctcat  
2160  
gctggcaaca agctggccat gcaggagttc atgatcctcc cagtcggtgc agcaaacttc  
2220  
agggaagcca tgcgatttg agcagaggtt taccacaacc tgaagaatgt catcaaggag  
2280  
aaatatggga aagatgccac caatgtgggg gatgaaggcg gggttgctcc caacatcctg  
2340

gagaataaag aaggcctgga gctgctgaag actgctattg ggaaagctgg ctacactgat  
 2400  
 aaggtgggtca tcggcatgga cgtagcggcc tccgagttct tcaggtctgg gaagtatgac  
 2460  
 ctggacttca agtctcccga tgaccccgag aggtacatct cgcctgacca gctgggtgac  
 2520  
 ctgtacaagt ccttcatcaa ggactaccca gtggtgtcta tcgaagatcc ctttgaccag  
 2580  
 gatgactggg gagcttggca gaagttcaca gccagtgcag gaatccaggt agtgggggat  
 2640  
 gatctcacag tgaccaaccc caagaggatc gccaggccg tgaacgagaa gtcctgcaac  
 2700  
 tgctcctgc tcaaagtcaa ccagattggc tccgtgaccg agtctcttca ggcgtgcaag  
 2760  
 ctggcccagg ccaatggttg gggcgtcatg gtgtctcatc gttcggggga gactgaagat  
 2820  
 accttcctcg ctgacctggg tgtggggctg tgcactgggc agatcaagac tgggtcccct  
 2880  
 tgccgatctg agcgcttggc caagtacaac cagctcctca gaattgaaga ggagctgggc  
 2940  
 agcaaggcta agtttgccgg caggaacttc agaaaccctt tggccaagta agctgtgggc  
 3000  
 aggcaagccc ttcggtcacc tgttggttac acagaccctt cccctcgtgt cagctcaggc  
 3060  
 agctcgaggc ccccgaccaa cacttgacgg ggtccctgct agttagcgcc ccaccgccg  
 3120  
 ggagttcgta ccgcttcctt agaacttcta cagaagccaa gtcctcggga gcctgttgg  
 3180  
 cagctctagc tttgcagtcg tgtaattggc ccaagtcatt gttttctcgc cctcactttc  
 3240  
 caccaagtgt ctagagtcac gtgagcctcg tgtcatctcc ggggtggcca caggctagat  
 3300  
 ccccggtggg tttgtgctca aaataaaaag cctcagtgc ccatgaaaaa aaaaaaaaaa  
 3360  
 actcgtgccg actcgtgccg aattcggaga ncccatgtcc ggagacccca cggctggcac  
 3420  
 ttcgggcccc gtatgacctg ggacctcgcc gtcccgagac ctctgggtc cctccgt  
 3477

<210> 3656

<211> 429

<212> PRT

<213> Homo sapiens

<400> 3656

Met	Ala	Ser	Leu	Lys	Glu	Leu	Ala	Pro	Thr	Gly	Arg	Ile	Met	Asn	Ser
1				5					10				15		
Cys	Met	Ala	Ser	Leu	Phe	Pro	Ala	Trp	Glu	Pro	Pro	Leu	Ile	Thr	Leu
			20					25				30			
Lys	Ala	Gly	Thr	Gly	Ser	Met	Arg	Ser	Gly	Phe	Pro	Ala	Lys	Ser	Ala
		35					40				45				
Met	Trp	Arg	Tyr	Arg	Gly	Thr	Pro	Phe	Ser	Lys	Ala	Val	Glu	His	Ile
	50					55				60					
Asn	Lys	Thr	Ile	Ala	Pro	Ala	Leu	Val	Ser	Lys	Lys	Leu	Asn	Val	Thr



```

65          70          75          80
Glu Gln Glu Lys Ile Asp Lys Leu Met Ile Glu Met Asp Gly Thr Glu
      85          90          95
Asn Lys Ser Lys Phe Gly Ala Asn Ala Ile Leu Gly Val Ser Leu Ala
      100          105          110
Val Cys Lys Ala Gly Ala Val Glu Lys Gly Val Pro Leu Tyr Arg His
      115          120          125
Ile Ala Asp Leu Ala Gly Asn Ser Glu Val Ile Leu Pro Val Pro Ala
      130          135          140
Phe Asn Val Ile Asn Gly Gly Ser His Ala Gly Asn Lys Leu Ala Met
      145          150          155          160
Gln Glu Phe Met Ile Leu Pro Val Gly Ala Ala Asn Phe Arg Glu Ala
      165          170          175
Met Arg Ile Gly Ala Glu Val Tyr His Asn Leu Lys Asn Val Ile Lys
      180          185          190
Glu Lys Tyr Gly Lys Asp Ala Thr Asn Val Gly Asp Glu Gly Gly Phe
      195          200          205
Ala Pro Asn Ile Leu Glu Asn Lys Glu Gly Leu Glu Leu Leu Lys Thr
      210          215          220
Ala Ile Gly Lys Ala Gly Tyr Thr Asp Lys Val Val Ile Gly Met Asp
      225          230          235          240
Val Ala Ala Ser Glu Phe Phe Arg Ser Gly Lys Tyr Asp Leu Asp Phe
      245          250          255
Lys Ser Pro Asp Asp Pro Ser Arg Tyr Ile Ser Pro Asp Gln Leu Ala
      260          265          270
Asp Leu Tyr Lys Ser Phe Ile Lys Asp Tyr Pro Val Val Ser Ile Glu
      275          280          285
Asp Pro Phe Asp Gln Asp Asp Trp Gly Ala Trp Gln Lys Phe Thr Ala
      290          295          300
Ser Ala Gly Ile Gln Val Val Gly Asp Asp Leu Thr Val Thr Asn Pro
      305          310          315          320
Lys Arg Ile Ala Gln Ala Val Asn Glu Lys Ser Cys Asn Cys Leu Leu
      325          330          335
Leu Lys Val Asn Gln Ile Gly Ser Val Thr Glu Ser Leu Gln Ala Cys
      340          345          350
Lys Leu Ala Gln Ala Asn Gly Trp Gly Val Met Val Ser His Arg Ser
      355          360          365
Gly Glu Thr Glu Asp Thr Phe Ile Ala Asp Leu Val Val Gly Leu Cys
      370          375          380
Thr Gly Gln Ile Lys Thr Gly Ala Pro Cys Arg Ser Glu Arg Leu Ala
      385          390          395          400
Lys Tyr Asn Gln Leu Leu Arg Ile Glu Glu Glu Leu Gly Ser Lys Ala
      405          410          415
Lys Phe Ala Gly Arg Asn Phe Arg Asn Pro Leu Ala Lys
      420          425

```

&lt;210&gt; 3657

&lt;211&gt; 337

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3657

tggttacgtgt tcatttttcga ctcaaggcgt acacgtgcag atgtgtcaca tgttcatttt

60

cagctcaagg cgtacacgtg caggtgtgtt acgtgttcat ttctgactca aggcgtacac  
 120  
 gtgcagatgt gtcacatggt cattttcggc tcaaggcgta cacgtgcagg tgtgttacgt  
 180  
 gttcattttc ggctcaaggc ttacacgtgc aggtgtgcca catgttcatt ttccggtcaa  
 240  
 ggcgtacatg tgcaggtgtg ttacatgttc attgtcagct caacgcgtac acgtgcaggt  
 300  
 gtgccacatg ttcattttcg gttcaaggcg tacgcgt  
 337

<210> 3658

<211> 99

<212> PRT

<213> Homo sapiens

<400> 3658

Met	Cys	His	Met	Phe	Ile	Phe	Ser	Ser	Arg	Arg	Thr	Arg	Ala	Gly	Val
1				5					10					15	
Leu	Arg	Val	His	Phe	Arg	Leu	Lys	Ala	Tyr	Thr	Cys	Arg	Cys	Val	Thr
			20					25					30		
Cys	Ser	Phe	Ser	Ala	Gln	Gly	Val	His	Val	Gln	Val	Cys	Tyr	Val	Phe
		35				40					45				
Ile	Phe	Gly	Ser	Arg	Leu	Thr	Arg	Ala	Gly	Val	Pro	His	Val	His	Phe
	50				55					60					
Arg	Leu	Lys	Ala	Tyr	Met	Cys	Arg	Cys	Val	Thr	Cys	Ser	Leu	Ser	Ala
65				70					75					80	
Gln	Arg	Val	His	Val	Gln	Val	Cys	His	Met	Phe	Ile	Phe	Gly	Ser	Arg
			85					90						95	
Arg	Thr	Arg													

<210> 3659

<211> 1025

<212> DNA

<213> Homo sapiens

<400> 3659

naagctttta ctgctgatgg tgatcaagtt ttctcaggac gttattattc atctgaaaat  
 60  
 acaagacctt agttcctaag cagagatgtg gattctgaaa taagtgactt ggagaatgag  
 120  
 gttgaaaata agacggccca gatattaaat cttcagcaac atttatctgc ccttgaaaaa  
 180  
 gatattaaac acaatgagga acttcttaaa aggtgccaac tacattataa agaactaaag  
 240  
 atgaaaataa gaaaaaatat ttctgaaatt cgggaacttg agaacataga agaacaccag  
 300  
 tctgtagata ttgcaacttt ggaagatgaa gctcaggaaa ataaaagcaa aatgaaaatg  
 360  
 gttgaggaac atatggagca acaaaaagaa aatatggagc atcttaaaag tctgaaaata  
 420  
 gaagcagaaa ataagtatga tgcaattaaa ttcaaaatta atcaactatc ggagctagca  
 480

gaccactta aggatgaatt aaaccttgct gattctgaag tggataacca aaaacgaggg  
 540  
 aaacgacatt atgaaaaaaaa acaaaaagaa cacttggata ccttaaataa aaagaaacga  
 600  
 gaactggata tgaagagaa agaactagag gagaaaatgt cacaagcaag acaaatctgc  
 660  
 ccagagcgta tagaagtaga aaaatctgca tcaattctgg acaaagaaat taatcgatta  
 720  
 aggcagaaga tacaggcaga acatgctagt catggagatc gagaggaaat aatgaggcag  
 780  
 taccaagaag caagagagac ctatcttgat ctggatagta aagtgaggac tttaaaaaag  
 840  
 tttattaaat tactgggaga aatcatggag cacagattca agacatatca acaatttaga  
 900  
 aggtgtttga ctttacgatg caaattatac ttgacaact tactatctca gcgggcctat  
 960  
 tgtggaaaaa tgaattttga ccacaagaat gaaactctaa gtatatcagt tcagcctgga  
 1020  
 gaaaa  
 1025

<210> 3660

<211> 341

<212> PRT

<213> Homo sapiens

<400> 3660

Xaa	Ala	Phe	Thr	Ala	Asp	Gly	Asp	Gln	Val	Phe	Ala	Gly	Arg	Tyr	Tyr
1				5					10					15	
Ser	Ser	Glu	Asn	Thr	Arg	Pro	Lys	Phe	Leu	Ser	Arg	Asp	Val	Asp	Ser
			20					25					30		
Glu	Ile	Ser	Asp	Leu	Glu	Asn	Glu	Val	Glu	Asn	Lys	Thr	Ala	Gln	Ile
		35					40					45			
Leu	Asn	Leu	Gln	Gln	His	Leu	Ser	Ala	Leu	Glu	Lys	Asp	Ile	Lys	His
		50				55					60				
Asn	Glu	Glu	Leu	Leu	Lys	Arg	Cys	Gln	Leu	His	Tyr	Lys	Glu	Leu	Lys
65					70					75				80	
Met	Lys	Ile	Arg	Lys	Asn	Ile	Ser	Glu	Ile	Arg	Glu	Leu	Glu	Asn	Ile
			85						90					95	
Glu	Glu	His	Gln	Ser	Val	Asp	Ile	Ala	Thr	Leu	Glu	Asp	Glu	Ala	Gln
			100						105					110	
Glu	Asn	Lys	Ser	Lys	Met	Lys	Met	Val	Glu	Glu	His	Met	Glu	Gln	Gln
		115					120					125			
Lys	Glu	Asn	Met	Glu	His	Leu	Lys	Ser	Leu	Lys	Ile	Glu	Ala	Glu	Asn
		130				135					140				
Lys	Tyr	Asp	Ala	Ile	Lys	Phe	Lys	Ile	Asn	Gln	Leu	Ser	Glu	Leu	Ala
145					150					155					160
Asp	Pro	Leu	Lys	Asp	Glu	Leu	Asn	Leu	Ala	Asp	Ser	Glu	Val	Asp	Asn
			165						170					175	
Gln	Lys	Arg	Gly	Lys	Arg	His	Tyr	Glu	Lys	Lys	Gln	Lys	Glu	His	Leu
		180						185					190		
Asp	Thr	Leu	Asn	Lys	Lys	Lys	Arg	Glu	Leu	Asp	Met	Lys	Glu	Lys	Glu
		195					200					205			
Leu	Glu	Glu	Lys	Met	Ser	Gln	Ala	Arg	Gln	Ile	Cys	Pro	Glu	Arg	Ile

210                      215                      220  
 Glu Val Glu Lys Ser Ala Ser Ile Leu Asp Lys Glu Ile Asn Arg Leu  
 225                      230                      235                      240  
 Arg Gln Lys Ile Gln Ala Glu His Ala Ser His Gly Asp Arg Glu Glu  
                     245                      250                      255  
 Ile Met Arg Gln Tyr Gln Glu Ala Arg Glu Thr Tyr Leu Asp Leu Asp  
                     260                      265                      270  
 Ser Lys Val Arg Thr Leu Lys Lys Phe Ile Lys Leu Leu Gly Glu Ile  
                     275                      280                      285  
 Met Glu His Arg Phe Lys Thr Tyr Gln Gln Phe Arg Arg Cys Leu Thr  
                     290                      295                      300  
 Leu Arg Cys Lys Leu Tyr Phe Asp Asn Leu Leu Ser Gln Arg Ala Tyr  
 305                      310                      315                      320  
 Cys Gly Lys Met Asn Phe Asp His Lys Asn Glu Thr Leu Ser Ile Ser  
                     325                      330                      335  
 Val Gln Pro Gly Glu  
                     340

&lt;210&gt; 3661

&lt;211&gt; 1117

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3661

gtgcactcgg attggcaaaag cccgagtggg ctgtctccac tgggttcttg gtcattcccc  
 60  
 tgtggcaaaa gctcctcctg catctgatac ttgggtcttc tccctctttt ataaaacaat  
 120  
 ttagatccta gaatgtgctt tttcacaatg gcttcgtttc caattttcac tgttatttgg  
 180  
 caaaggggtg caacattact atttgtggag gttcccgga gagcagggtt tgcaatgtag  
 240  
 gtttcaattt tgctggtttc ttcagcaata tttgtggtt tgctcagtga tctccagga  
 300  
 tcagcaacat agtttgactc ctccggtatt tctcccctgg tatgtgatgt agttttcttt  
 360  
 ttctccttaa tgcttttggg tctgcttgca aacctaccca ctttatctgg ctcgggctta  
 420  
 ctgtcatctt tcagggactg actgacagct gggctctgaa aggtctctgt gttgctgctg  
 480  
 gtcattggcag caatggcatt gctgtgcatg atcaccgatg aaaactggct gctgtgtaca  
 540  
 atgaccgagg gtgcagagcc actgtagctg atcacagagg cggcattctc actgctatta  
 600  
 ctcaaagata aaacaggtac atcccctgcc cggaggtcag aactgacagc attttcagt  
 660  
 gaagaaactg acacctcagt tgaataaaaag ttattgtcaa gatccatttt caatgcctcc  
 720  
 tctcccatcatt tggtagcctc tgcattttgt acattggcag aagtgggtat gtcctgacat  
 780  
 gcagatgttt ccaatgggat ggctggactg ttggtcaggg tgtttacagt atcttggaaa  
 840  
 ttcagcgttg gtaattcaga gctgtgtgga ttctgaacaa cataggtacc aggtgcagac  
 900

tcattcattt gactgttttc tcgtgcattt tcataggaag aatttcggta gctcttataa  
 960  
 ggggctctct tgcatttcat aggcagtagc ctataaagtt tatacggata gacactaggc  
 1020  
 ttcaagcctc catttgctgt ttttttactg atggaaagtc tatgatcgat ggcattggaaa  
 1080  
 gacttctgat gatttttgag tatatagtag gtcatga  
 1117

<210> 3662

<211> 371

<212> PRT

<213> Homo sapiens

<400> 3662

Met	Thr	Tyr	Tyr	Ile	Leu	Lys	Asn	His	Gln	Lys	Ser	Phe	His	Ala	Ile
1				5					10					15	
Asp	His	Arg	Leu	Ser	Ile	Ser	Lys	Lys	Thr	Ala	Asn	Gly	Gly	Leu	Lys
			20					25					30		
Pro	Ser	Val	Tyr	Pro	Tyr	Lys	Leu	Tyr	Arg	Leu	Leu	Pro	Met	Lys	Cys
			35				40					45			
Lys	Arg	Ala	Pro	Tyr	Lys	Ser	Tyr	Arg	Asn	Ser	Ser	Tyr	Glu	Asn	Ala
			50			55				60					
Arg	Glu	Asn	Ser	Gln	Met	Asn	Glu	Ser	Ala	Pro	Gly	Thr	Tyr	Val	Val
65					70					75					80
Gln	Asn	Pro	His	Ser	Ser	Glu	Leu	Pro	Thr	Leu	Asn	Phe	Gln	Asp	Thr
			85						90					95	
Val	Asn	Thr	Leu	Thr	Asn	Ser	Pro	Ala	Ile	Pro	Leu	Glu	Thr	Ser	Ala
			100					105					110		
Cys	Gln	Asp	Ile	Pro	Thr	Ser	Ala	Asn	Val	Gln	Asn	Ala	Glu	Gly	Thr
			115				120					125			
Lys	Trp	Gly	Glu	Glu	Ala	Leu	Lys	Met	Asp	Leu	Asp	Asn	Asn	Phe	Tyr
			130			135					140				
Ser	Thr	Glu	Val	Ser	Val	Ser	Ser	Thr	Glu	Asn	Ala	Val	Ser	Ser	Asp
145					150					155					160
Leu	Arg	Ala	Gly	Asp	Val	Pro	Val	Leu	Ser	Leu	Ser	Asn	Ser	Ser	Glu
				165				170						175	
Asn	Ala	Ala	Ser	Val	Ile	Ser	Tyr	Ser	Gly	Ser	Ala	Pro	Ser	Val	Ile
			180				185					190			
Val	His	Ser	Ser	Gln	Phe	Ser	Ser	Val	Ile	Met	His	Ser	Asn	Ala	Ile
			195				200					205			
Ala	Ala	Met	Thr	Ser	Ser	Asn	His	Arg	Ala	Phe	Ser	Asp	Pro	Ala	Val
			210			215					220				
Ser	Gln	Ser	Leu	Lys	Asp	Asp	Ser	Lys	Pro	Glu	Pro	Asp	Lys	Val	Gly
225					230					235					240
Arg	Phe	Ala	Ser	Arg	Pro	Lys	Ser	Ile	Lys	Glu	Lys	Lys	Lys	Thr	Thr
				245					250					255	
Ser	His	Thr	Arg	Gly	Glu	Ile	Pro	Glu	Glu	Ser	Asn	Tyr	Val	Ala	Asp
			260					265				270			
Pro	Gly	Gly	Ser	Leu	Ser	Lys	Thr	Thr	Asn	Ile	Ala	Glu	Glu	Thr	Ser
			275				280					285			
Lys	Ile	Glu	Thr	Tyr	Ile	Ala	Lys	Pro	Ala	Leu	Pro	Gly	Thr	Ser	Thr
			290			295					300				
Asn	Ser	Asn	Val	Ala	Pro	Leu	Cys	Gln	Ile	Thr	Val	Lys	Ile	Gly	Asn

```
<210> 3663
<211> 481
<212> DNA
<213> Homo sapiens
```

```
<210> 3664
<211> 138
<212> PRT
<213> Homo sapiens
```

2814

```

          100          105          110
Arg Asp Leu Ala Glu Gln Cys Val Lys Val Ser Ile Thr Tyr Trp Leu
          115          120          125
Ile Thr Tyr Phe Ser Gln Thr Ser Gln Gly
          130          135

```

&lt;210&gt; 3665

&lt;211&gt; 6633

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3665

```

agggcgcgcc ctgacggact ggccgagccg gcggtgagag gccggcgcggt cgggagcggg
60
ccgcgcggca ccatgtcggc caaggtgagg ctcaagaagc tggagcagct gtcctcggac
120
gggccctggc gcaacgagag cgccctgagc gtggaaacgc tgctcgacgt gtcgtctgac
180
ctgtacaccg agtgcagcca ctccggccctg cgccgcgaca agtacgtggc cgagttcctc
240
gagtgggcta aaccatttac acagctgggtg aaagaaatgc agcttcatcg agaagacttt
300
gaaataatta aagtaattgg aagaggtgct tttggtgagg ttgctgttgt caaaatgaag
360
aatactgaac gaatttatgc aatgaaaatc ctcaacaagt gggagatgct gaaaagagca
420
gagaccgcgt gcttccgaga ggagcgcgat gtgctggtga acggcgactg ccagtggatc
480
accgcgctgc actacgcctt tcaggacgag aaccacctgt acttagtcat ggattactat
540
gtgggtggtg atttactgac cctgctcagc aaatttgaag acaagcttcc ggaagatatg
600
gcgaggttct acattggtga aatggtgctg gccattgact ccatccatca gcttcattac
660
gtgcacagag acattaaacc tgacaatgtc cttttggacg tgaatggtca tatccgcctg
720
gctgactttg gatcatgttt gaagatgaat gatgatggca ctgtgcagtc ctccgtggcc
780
gtgggcacac ctgactacat ctccgcggag atcctgcagg cgatggagga cggcatgggc
840
aaatacgggc ctgagtgtga ctgggtggtc ctgggtgtct gcatgtatga gatgctctat
900
ggagaaacgc cgttttatgc ggagtcactc gtggagacct atgggaagat catgaaccat
960
gaagagcgat tccagttccc atcccatgtc acggatgtat ctgaagaagc gaaggacctc
1020
atccagagac tgatctgcag tagagaacgc cggctggggc agaatggaat agaggatttc
1080
aaaaagcatg cgttttttga aggtctaaat tgggaaaata tacgaaacct agaagcacct
1140
tatattcctg atgtgagcag tccctctgac acatccaact tcgacgtgga tgacgacgtg
1200
ctgagaaaca cggaaatatt acctcctggt tctcacacag gcttttctgg attacatttg
1260

```

ccattcattg gttttacatt cacaacggaa agctgttttt ctgatcgagg ctctctgaag  
1320  
agcataatgc agtccaacac attaaccaaa gatgaggatg tgcagcggga cctggagcac  
1380  
agcctgcaga tggaagctta cgagaggagg attcggaggc tggaacagga gaagctggag  
1440  
ctgagcagga agctgcaaga gtccaccag accgtgcagt ccctccacgg ctcatctcgg  
1500  
gccctcagca attcaaaccg agataaagaa atcaaaaagc taaatgaaga aatcgaacgc  
1560  
ttgaagaata aaatagcaga ttcaaacagg ctggagcgac agcttgagga cacagtggcg  
1620  
cttcgccaag agcgtgagga ctccacgcag cggctgcggg ggctggagaa gcagcacgcg  
1680  
gtggtccggc aggagaagga ggagctgcac aagcaactgg ttgaagcctc agagcggttg  
1740  
aaatcccagg ccaaggaaact caaagatgcc catcagcagc gaaagctggc cctgcaggag  
1800  
ttctcggagc tgaacgagcg catggcagag ctccgtgccc agaagcagaa ggtgtcccgg  
1860  
cagctgcgag acaaggagga ggagatggag gtggccacgc agaaggtgga cgccatcggg  
1920  
caggaaatgc ggagagctga gaagctcagg aaagagctgg aagctcagct tgatgatgct  
1980  
gttgctgagg cctccaagga gcgcaagctt cgtgagcaca gcgagaactt ctgcaagcaa  
2040  
atggaaagcg agctggaggc cctcaagggtg aagcaaggag gccggggagc ggggtgccacc  
2100  
ttagagcacc agcaagagat ttccaaaatc aaatccgagc tggagaagaa agtcttattt  
2160  
tatgaagagg aattggtcag acgtgaggcc tccatgtgc tagaagtga aaatgtgaag  
2220  
aaggaggtgc atgattcaga aagccaccag ctggccctgc agaaagaaat cttgatgtta  
2280  
aaagataagt tagaaaagtc aaagcgagaa cggcataacg agatggagga ggcagtaggt  
2340  
acaataaaag ataaatacga acgagaaaga gcgatgctgt ttgatgaaaa caagaagcta  
2400  
actgctgaaa atgaaaagct ctgttccttt gtggataaac tcacagctca aaatagacag  
2460  
ctggaggatg agctgcagga tctggcagcc aagaaggagt cagtggccca ctgggaagct  
2520  
cagattgcgg aaatcattca gtgggtcagt gacgagaaag atgcccgggg ttaccttcaa  
2580  
gctcttgctt ccaagatgac cgaagagctc gaggctttga ggagttctag tctggggta  
2640  
agaacactgg acccgctgtg gaaggtgcgc cgcagccaga agctggacat gtccgcgcgg  
2700  
ctggagctgc agtcggccct ggaggcggag atccgggcca agcagcttgt ccaggaggag  
2760  
ctcaggaagg tcaaggacgc caacctcacc ttggaaagca aactaaagga ttccgaagcc  
2820  
aaaaacagag aattattaga agaaatggaa attttgaaga aaaagatgga agaaaaattc  
2880



agagcagata ctgggctcaa acttccagat ttccaggatt ccatttttga gtatttcaac  
2940  
actgctcctc ttgcacatga cctgacattt agagactctc tctcctcctc gtctgcatct  
3000  
tccctgctag ccttttgga agaaccagc tcagctagtg agcaagaaac acaagctccg  
3060  
aagccagaag cgtccccgtc gatgtctgtg gctgcatcag agcagcagga ggacatggct  
3120  
cgcccccg agaggccatc cgctgtgccg ttgcccacca cgcaggccct ggctctggct  
3180  
ggaccgaagc caaaagctca ccagttcagc atcaagtcct tctccagccc tactcagtgc  
3240  
agccactgca cctccctgat ggttgggctg atccggcagg gctacgcctg cgagggtgtg  
3300  
tcctttgctt gccacgtgtc ctgcaagac ggtgcccccc aggtgtgccc aatacctccc  
3360  
gagcagtcca agaggcctct gggcgtggac gtgcagcgag gcatcggaa agcctacaaa  
3420  
ggccatgtca aggtcccaaa gccacgggg gtgaagaagg gatggcagcg cgcataatga  
3480  
gtcgtctgtg actgcaagct cttcctgtat gatctgcctg aaggaaaatc caccagcct  
3540  
ggtgtcattg cgagccaagt cttggatctc agagatgacg agttttccgt gagctcagtc  
3600  
ctggcctcag atgtcattca tgctacacgc cgagatattc catgtatatt cagggtgacg  
3660  
gcctctctct taggtgcacc ttctaagacc agctcgctgc tcattctgac agaaaatgag  
3720  
aatgaaaaga ggaagtgggt tgggattcta gaaggactcc agtccatcct tcataaaaa  
3780  
cggctgagga atcaggtcgt gcatgttccc ttggaagcct acgacagctc gctgcctctc  
3840  
atcaaggcca tcctgacagc tgccatcgtg gatgcagaca ggattgcagt cggcctagaa  
3900  
gaagggtcct atgtcataga ggtcacccga gatgtgatcg tccgtgccgc tgactgtaag  
3960  
aaggtagacc agatcgagct tgctcccagg gagaagatcg taatcctcct ctgtggccgg  
4020  
aaccaccatg tgcacctcta tccgtggctg tcccttgatg gagcggaagg cagctttgac  
4080  
atcaagcttc cgaaaccaa aggtgccag ctcatggcca cggccacact caagaggaa  
4140  
tctggcacct gcctgtttgt ggccgtgaaa cggctgatcc tttgctatga gatccagaga  
4200  
acgaagccat tccacagaaa gttcaatgag attgtggctc cggcagcgt gcagtgcctg  
4260  
gcggtgctca gggacaggct ctgtgtgggc tacccttctg ggttctgcct gctgagcatc  
4320  
cagggggagc ggcagcctct aaacctggt aatcccaatg acccctcgtg tgcgttctc  
4380  
tcacaacagt cttttgatgc cttttgtgct gtggagctcg aaagcgagga gtacctgctt  
4440  
tgcttcagcc acatgggact gtacgtggac ccgcaaggcc ggagggcacg cgcgcaggag  
4500

ctcatgtggc ctgcggctcc tgctgcctgt agttgcagcc ccaccacgt cacggtgtac  
4560  
agcgagtatg gcgtggacgt ctttgatgtg cgcaccatgg agtgggtgca gaccatcggc  
4620  
ctgcggagga taaggccct gaactctgaa ggcaccctca acctcctcaa ctgcgagcct  
4680  
ccacgcttga tctacttcaa gagcaagttc tcgggagcgg ttctcaacgt gccggacacc  
4740  
tccgacaaca gcaagaagca gatgctgcgc accaggagca aaaggcgggt cgtcttcaag  
4800  
gtcccagagg aagagagact gcagcagagg cgagagatgc ttagagaccc agaattgaga  
4860  
tccaaaatga tatccaaccc aaccaacttc aaccacgtgg cccacatggg cccaggcgac  
4920  
ggcatgcagg tgctcatgga cctgcctctg agtgctgtgc cccctccca ggaggaaagg  
4980  
ccgggccccg ctcccaccaa cctggctcgc cagcctccat ccaggaacaa gcctacatc  
5040  
tcgtggccct catcaggtgg atcggagcct agcgtgactg tgcctctgag aagtatgtct  
5100  
gatccagacc aggactttga caaagagcct gattcggact ccaccaacaa ctcaactcca  
5160  
tcgaatatgt ccaaccccag cggcccaccg agccccaact ccccccacag gagccagctc  
5220  
cccctcgaag gcctggagca gccggcctgt gacacctgaa gccgccagct cgccacaggg  
5280  
gccagggagc tggagatggc ctccagcgtc agtgccaaga ctgagcgggc cctccagtgt  
5340  
tgtccaagga aatgtagaat cactttgtag atatggagat gaagaagaca aatctttatt  
5400  
ataatattga tcagttttat gccgcattgt tcgtggcagt agaccacatc tgttcgtctg  
5460  
cacagctgtg aggcgatgt gttccatctg cacatgaagg acccccatc agcctgtctc  
5520  
ccaccctga caaccgaga gggcatatgg ggccctgcc acaccacttc ctcagcagaa  
5580  
accgctcatg acgcggctgc ttcggaagca gacatctggg gacacagcct cagtaccag  
5640  
tctttccct agttcctgaa actttcctag gaccttaaga gaatagtagg aggtcctata  
5700  
gcattcccag tgtcactaga attttgaaga caggaaagtg gaggttagtc tgtggccttt  
5760  
ttttcattta gccattgcac agtcagctgc agaagtcctg ctgaccacct agtcatggac  
5820  
aaaggcccag gaccagtgc accctgcgtc cctgtgtgca ttaagttcat tctgggtcgc  
5880  
agccatgaag tgtcaccagt atctactact gtgaagtcag ctgtgctgtt ttccattcgc  
5940  
ttccactgct tctgcctcct gccataaac cagcgagtgt cgtggtgcag gcaggccctg  
6000  
tggcctgctg ggctgaggga agtcagagcc ccaggcgcc acgaagcagc cactgggata  
6060  
ccccacccg ccccgccctg cccgcccccc cccaccagt cctgccccg catggagccc  
6120

ccgtgattag tagcccgat gatcacgtag acccaccacaa cacactcctg cacactggcc  
 6180  
 ccggcccacg gcacagcaat cccctgcgcg tggatttcac ctcacccttt gtaccagatg  
 6240  
 ttgagtgacc agctctgtgg ccctgtgtcg tcagaggctt gtgattaact gtggcggcag  
 6300  
 acacagcttg tccacagctt gggccaggct tcccctgtcc tcccaccggt cggctgcttg  
 6360  
 gcaaggctgt tcaggacgtg cacttcccca agtcggcact gagtggccca gcaccaccta  
 6420  
 gccctgccac cccactgccc tcctgggctt tctgctggat gggcacctgg ggggttctgg  
 6480  
 tttttacttt tttaatgtaa gtctcagtct ttgtaattaa ttattgaatt gtgagaacat  
 6540  
 ttttgaacaa tttacctgtc aataaagcag aagacggcag ttttaaagtt aaaaaaaaaa  
 6600  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa  
 6633

<210> 3666

<211> 1728

<212> PRT

<213> Homo sapiens

<400> 3666

Met	Ser	Ala	Lys	Val	Arg	Leu	Lys	Lys	Leu	Glu	Gln	Leu	Leu	Leu	Asp
1				5					10					15	
Gly	Pro	Trp	Arg	Asn	Glu	Ser	Ala	Leu	Ser	Val	Glu	Thr	Leu	Leu	Asp
			20					25					30		
Val	Leu	Val	Cys	Leu	Tyr	Thr	Glu	Cys	Ser	His	Ser	Ala	Leu	Arg	Arg
		35					40					45			
Asp	Lys	Tyr	Val	Ala	Glu	Phe	Leu	Glu	Trp	Ala	Lys	Pro	Phe	Thr	Gln
	50					55					60				
Leu	Val	Lys	Glu	Met	Gln	Leu	His	Arg	Glu	Asp	Phe	Glu	Ile	Ile	Lys
65					70					75					80
Val	Ile	Gly	Arg	Gly	Ala	Phe	Gly	Glu	Val	Ala	Val	Val	Lys	Met	Lys
				85					90					95	
Asn	Thr	Glu	Arg	Ile	Tyr	Ala	Met	Lys	Ile	Leu	Asn	Lys	Trp	Glu	Met
			100					105					110		
Leu	Lys	Arg	Ala	Glu	Thr	Ala	Cys	Phe	Arg	Glu	Glu	Arg	Asp	Val	Leu
		115					120					125			
Val	Asn	Gly	Asp	Cys	Gln	Trp	Ile	Thr	Ala	Leu	His	Tyr	Ala	Phe	Gln
	130					135					140				
Asp	Glu	Asn	His	Leu	Tyr	Leu	Val	Met	Asp	Tyr	Tyr	Val	Gly	Gly	Asp
145					150					155					160
Leu	Leu	Thr	Leu	Leu	Ser	Lys	Phe	Glu	Asp	Lys	Leu	Pro	Glu	Asp	Met
			165						170					175	
Ala	Arg	Phe	Tyr	Ile	Gly	Glu	Met	Val	Leu	Ala	Ile	Asp	Ser	Ile	His
			180					185					190		
Gln	Leu	His	Tyr	Val	His	Arg	Asp	Ile	Lys	Pro	Asp	Asn	Val	Leu	Leu
	195						200					205			
Asp	Val	Asn	Gly	His	Ile	Arg	Leu	Ala	Asp	Phe	Gly	Ser	Cys	Leu	Lys
	210					215					220				
Met	Asn	Asp	Asp	Gly	Thr	Val	Gln	Ser	Ser	Val	Ala	Val	Gly	Thr	Pro

2820

2821

1090	1095	1100
Val Asp Val Gln Arg Gly Ile Gly Thr Ala Tyr Lys Gly His Val Lys		
1105	1110	1115
Val Pro Lys Pro Thr Gly Val Lys Lys Gly Trp Gln Arg Ala Tyr Ala		1120
	1125	1130
Val Val Cys Asp Cys Lys Leu Phe Leu Tyr Asp Leu Pro Glu Gly Lys		1135
	1140	1145
Ser Thr Gln Pro Gly Val Ile Ala Ser Gln Val Leu Asp Leu Arg Asp		1150
	1155	1160
Asp Glu Phe Ser Val Ser Ser Val Leu Ala Ser Asp Val Ile His Ala		1165
	1170	1175
Thr Arg Arg Asp Ile Pro Cys Ile Phe Arg Val Thr Ala Ser Leu Leu		1180
1185	1190	1195
Gly Ala Pro Ser Lys Thr Ser Ser Leu Leu Ile Leu Thr Glu Asn Glu		1200
	1205	1210
Asn Glu Lys Arg Lys Trp Val Gly Ile Leu Glu Gly Leu Gln Ser Ile		1215
	1220	1225
Leu His Lys Asn Arg Leu Arg Asn Gln Val Val His Val Pro Leu Glu		1230
	1235	1240
Ala Tyr Asp Ser Ser Leu Pro Leu Ile Lys Ala Ile Leu Thr Ala Ala		1245
	1250	1255
Ile Val Asp Ala Asp Arg Ile Ala Val Gly Leu Glu Glu Gly Leu Tyr		1260
1265	1270	1275
Val Ile Glu Val Thr Arg Asp Val Ile Val Arg Ala Ala Asp Cys Lys		1280
	1285	1290
Lys Val His Gln Ile Glu Leu Ala Pro Arg Glu Lys Ile Val Ile Leu		1295
	1300	1305
Leu Cys Gly Arg Asn His His Val His Leu Tyr Pro Trp Ser Ser Leu		1310
	1315	1320
Asp Gly Ala Glu Gly Ser Phe Asp Ile Lys Leu Pro Glu Thr Lys Gly		1325
	1330	1335
Cys Gln Leu Met Ala Thr Ala Thr Leu Lys Arg Asn Ser Gly Thr Cys		1340
1345	1350	1355
Leu Phe Val Ala Val Lys Arg Leu Ile Leu Cys Tyr Glu Ile Gln Arg		1360
	1365	1370
Thr Lys Pro Phe His Arg Lys Phe Asn Glu Ile Val Ala Pro Gly Ser		1375
	1380	1385
Val Gln Cys Leu Ala Val Leu Arg Asp Arg Leu Cys Val Gly Tyr Pro		1390
	1395	1400
Ser Gly Phe Cys Leu Leu Ser Ile Gln Gly Asp Gly Gln Pro Leu Asn		1405
	1410	1415
Leu Val Asn Pro Asn Asp Pro Ser Leu Ala Phe Leu Ser Gln Gln Ser		1420
1425	1430	1435
Phe Asp Ala Leu Cys Ala Val Glu Leu Glu Ser Glu Glu Tyr Leu Leu		1440
	1445	1450
Cys Phe Ser His Met Gly Leu Tyr Val Asp Pro Gln Gly Arg Arg Ala		1455
	1460	1465
Arg Ala Gln Glu Leu Met Trp Pro Ala Ala Pro Val Ala Cys Ser Cys		1470
	1475	1480
Ser Pro Thr His Val Thr Val Tyr Ser Glu Tyr Gly Val Asp Val Phe		1485
	1490	1495
Asp Val Arg Thr Met Glu Trp Val Gln Thr Ile Gly Leu Arg Arg Ile		1500
1505	1510	1515
Arg Pro Leu Asn Ser Glu Gly Thr Leu Asn Leu Leu Asn Cys Glu Pro		1520

1525 1530 1535  
 Pro Arg Leu Ile Tyr Phe Lys Ser Lys Phe Ser Gly Ala Val Leu Asn  
 1540 1545 1550  
 Val Pro Asp Thr Ser Asp Asn Ser Lys Lys Gln Met Leu Arg Thr Arg  
 1555 1560 1565  
 Ser Lys Arg Arg Phe Val Phe Lys Val Pro Glu Glu Glu Arg Leu Gln  
 1570 1575 1580  
 Gln Arg Arg Glu Met Leu Arg Asp Pro Glu Leu Arg Ser Lys Met Ile  
 1585 1590 1595 1600  
 Ser Asn Pro Thr Asn Phe Asn His Val Ala His Met Gly Pro Gly Asp  
 1605 1610 1615  
 Gly Met Gln Val Leu Met Asp Leu Pro Leu Ser Ala Val Pro Pro Ser  
 1620 1625 1630  
 Gln Glu Glu Arg Pro Gly Pro Ala Pro Thr Asn Leu Ala Arg Gln Pro  
 1635 1640 1645  
 Pro Ser Arg Asn Lys Pro Tyr Ile Ser Trp Pro Ser Ser Gly Gly Ser  
 1650 1655 1660  
 Glu Pro Ser Val Thr Val Pro Leu Arg Ser Met Ser Asp Pro Asp Gln  
 1665 1670 1675 1680  
 Asp Phe Asp Lys Glu Pro Asp Ser Asp Ser Thr Lys His Ser Thr Pro  
 1685 1690 1695  
 Ser Asn Ser Ser Asn Pro Ser Gly Pro Pro Ser Pro Asn Ser Pro His  
 1700 1705 1710  
 Arg Ser Gln Leu Pro Leu Glu Gly Leu Glu Gln Pro Ala Cys Asp Thr  
 1715 1720 1725

&lt;210&gt; 3667

&lt;211&gt; 505

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3667

tgtacattaa tctaaatacc tggatttaca ttgatattttt aatatttgta aatttcatgt  
 60  
 taattcccta tgttaacaag ttttaataagt catctgtaac agtacaatta agtccatata  
 120  
 tgattgtatt tactctttct tccctactca tagtatgcgt tccattttga ggaatcacag  
 180  
 atatcgaaga gatgccagaa cactagaaga tgaagaagag atgtgggtta acacagatga  
 240  
 agatgacatg gaagatggag aagctgtagt gtctccatct gacaaaacta aaaatgatga  
 300  
 tgatattatg gatccaataa gtaaattcat ggaaaggaag aaattaaaag aaagtgagga  
 360  
 aaaggaagtg cttctgaaaa caaacctttc tggacggcag agcccaagtt tcaagctttc  
 420  
 cctgtccagt ggaacgaaga ctaacctcac cagccagtca tctacaacaa atctgcctgg  
 480  
 ttctccggga tcacctggat cccca  
 505

&lt;210&gt; 3668

&lt;211&gt; 117

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3668

```

Met Arg Ser Ile Leu Arg Asn His Arg Tyr Arg Arg Asp Ala Arg Thr
 1           5           10           15
Leu Glu Asp Glu Glu Glu Met Trp Phe Asn Thr Asp Glu Asp Asp Met
 20           25           30
Glu Asp Gly Glu Ala Val Val Ser Pro Ser Asp Lys Thr Lys Asn Asp
 35           40           45
Asp Asp Ile Met Asp Pro Ile Ser Lys Phe Met Glu Arg Lys Lys Leu
 50           55           60
Lys Glu Ser Glu Glu Lys Glu Val Leu Leu Lys Thr Asn Leu Ser Gly
 65           70           75           80
Arg Gln Ser Pro Ser Phe Lys Leu Ser Leu Ser Ser Gly Thr Lys Thr
 85           90           95
Asn Leu Thr Ser Gln Ser Ser Thr Thr Asn Leu Pro Gly Ser Pro Gly
100           105           110
Ser Pro Gly Ser Pro
115

```

&lt;210&gt; 3669

&lt;211&gt; 1226

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3669

```

cttgactccc agcattctca tctcaccttg ccatactata agatgtcttg tttgtctatg
60
gctgagggttc tggcccgcac ggactggaca gtagaggatg gattacagaa atacgagaga
120
ggattaatct tttacattaa tcattcactt tatgaaaacc tggatgaaga attaaatgaa
180
gaattagcag caaaagtggc tcagatgttt tatgtggctg agccaaagca agtgcccat
240
attctctgta gtccttctat gaagaatatt aatccttta ctgcatgag ctatctaagg
300
aagatggata cttctgggtt ttcattccatc ttagtgacac tgagcaaggc agcagtggca
360
ctgaaaatgg gagatcttga cgtgtacaga aatgaaatga aaagccatcc agagatgaag
420
ttggtgtgtg gcttcatttt ggaaccacgc ctggtgattc aacacaggaa gggacagatt
480
gttccaactg agcttgcgac tcacttgaag gagactcagc caggattgct tgtggcttca
540
gtcctgggat tgcagaagaa cagcaaaatt gggattgaag aagcagattc tttctttaag
600
gtgctttgtg gtaaggatga agataccatc cctcagctct tgatagactt ttgggaagct
660
cagctagtgg catgtctccc agatgtggta cttcaggaac tctttttcaa actcacatca
720
cagtacatct ggagattgtc taagaggcag cctcctgaca ccacaccatt gcgaacatcg
780
gaggatctga taaatgcctg tagtcattat ggcttaattt atccatgggt tcacgtcgta
840

```



atatcatctg attcttttagc tgataaaaat tatacagaag atctttcaaa attacagtct  
 900  
 cttatatgtg gtccttcatt tgacatagct tccattattc cgttcttgga gccactttca  
 960  
 gaagacacta ttgccggcct cagtgtccat gttctgtgtc gtacacgctt gaaagagtat  
 1020  
 gaacagtgc tagacatact gttagagaga tgcccggagg cagtcattcc atatgcta  
 1080  
 catgaactga aagaagagaa cgggactctg tgggtggaaaa aactgttgcc tgaactttgt  
 1140  
 cagagaataa aatgtggtgg agagaagtat caactctacc tgtcatcatt aaaagcttaa  
 1200  
 ttttcacggg aactgtggaa gctagc  
 1226

<210> 3670

<211> 385

<212> PRT

<213> Homo sapiens

<400> 3670

Met	Ser	Gly	Leu	Ser	Met	Ala	Glu	Val	Leu	Ala	Arg	Thr	Asp	Trp	Thr
1				5					10					15	
Val	Glu	Asp	Gly	Leu	Gln	Lys	Tyr	Glu	Arg	Gly	Leu	Ile	Phe	Tyr	Ile
			20					25					30		
Asn	His	Ser	Leu	Tyr	Glu	Asn	Leu	Asp	Glu	Glu	Leu	Asn	Glu	Glu	Leu
		35				40					45				
Ala	Ala	Lys	Val	Val	Gln	Met	Phe	Tyr	Val	Ala	Glu	Pro	Lys	Gln	Val
	50					55				60					
Pro	His	Ile	Leu	Cys	Ser	Pro	Ser	Met	Lys	Asn	Ile	Asn	Pro	Leu	Thr
65					70					75				80	
Ala	Met	Ser	Tyr	Leu	Arg	Lys	Met	Asp	Thr	Ser	Gly	Phe	Ser	Ser	Ile
				85					90					95	
Leu	Val	Thr	Leu	Ser	Lys	Ala	Ala	Val	Ala	Leu	Lys	Met	Gly	Asp	Leu
			100					105					110		
Asp	Val	Tyr	Arg	Asn	Glu	Met	Lys	Ser	His	Pro	Glu	Met	Lys	Leu	Val
		115				120						125			
Cys	Gly	Phe	Ile	Leu	Glu	Pro	Arg	Leu	Leu	Ile	Gln	His	Arg	Lys	Gly
	130					135					140				
Gln	Ile	Val	Pro	Thr	Glu	Leu	Ala	Thr	His	Leu	Lys	Glu	Thr	Gln	Pro
145					150					155				160	
Gly	Leu	Leu	Val	Ala	Ser	Val	Leu	Gly	Leu	Gln	Lys	Asn	Ser	Lys	Ile
			165					170						175	
Gly	Ile	Glu	Glu	Ala	Asp	Ser	Phe	Phe	Lys	Val	Leu	Cys	Gly	Lys	Asp
		180					185					190			
Glu	Asp	Thr	Ile	Pro	Gln	Leu	Leu	Ile	Asp	Phe	Trp	Glu	Ala	Gln	Leu
	195					200					205				
Val	Ala	Cys	Leu	Pro	Asp	Val	Val	Leu	Gln	Glu	Leu	Phe	Phe	Lys	Leu
	210					215					220				
Thr	Ser	Gln	Tyr	Ile	Trp	Arg	Leu	Ser	Lys	Arg	Gln	Pro	Pro	Asp	Thr
225					230					235				240	
Thr	Pro	Leu	Arg	Thr	Ser	Glu	Asp	Leu	Ile	Asn	Ala	Cys	Ser	His	Tyr
			245					250						255	
Gly	Leu	Ile	Tyr	Pro	Trp	Val	His	Val	Val	Ile	Ser	Ser	Asp	Ser	Leu

260 265 270  
 Ala Asp Lys Asn Tyr Thr Glu Asp Leu Ser Lys Leu Gln Ser Leu Ile  
 275 280 285  
 Cys Gly Pro Ser Phe Asp Ile Ala Ser Ile Ile Pro Phe Leu Glu Pro  
 290 295 300  
 Leu Ser Glu Asp Thr Ile Ala Gly Leu Ser Val His Val Leu Cys Arg  
 305 310 315 320  
 Thr Arg Leu Lys Glu Tyr Glu Gln Cys Ile Asp Ile Leu Leu Glu Arg  
 325 330 335  
 Cys Pro Glu Ala Val Ile Pro Tyr Ala Asn His Glu Leu Lys Glu Glu  
 340 345 350  
 Asn Arg Thr Leu Trp Trp Lys Lys Leu Leu Pro Glu Leu Cys Gln Arg  
 355 360 365  
 Ile Lys Cys Gly Gly Glu Lys Tyr Gln Leu Tyr Leu Ser Ser Leu Lys  
 370 375 380  
 Ala  
 385

&lt;210&gt; 3671

&lt;211&gt; 828

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3671

nntacagcta agattcattt catacgtttg atgcttagct gaaaaattac aataaattct  
 60  
 ccaatgaaat tatgtatctt tatttaatga aaatgcctgc tgcgtaccaa ggtatgtact  
 120  
 agggcatctg gggtaagtaa aaacaaacac atagagcctg cctggagaag ctcatggctt  
 180  
 gatggaaaga taagcaagaa gagttaattt ctaatcaata tgataaaaag gtcagagagc  
 240  
 agtttctgaa aaacatgttt ttgagttgag tcctgaaaga caaggagatg ttagtaaagc  
 300  
 agagaaggga gaattcattc tagaaagatc agacaatgtg tgggaagggc agagtctgaa  
 360  
 aagagcatgc ccattttgga gaagcatcaa gaagcccacg cgtagaagc accggcccca  
 420  
 tgagacaaag acacagctag agagattgac taggcatgt cggaatgtcc tcttatttta  
 480  
 tacatacata agcatataga tacatatagc caaagttacc tttttaatga tcttttttac  
 540  
 ccagtgtatt ctggaggtcg aatggtcaca tatgaacatc tccgagaggt tgtgtttggc  
 600  
 aaaagtgaag atgagcatta tcccctttgg aaatcagtca ttggagggat gatggctggt  
 660  
 gttattggcc agtttttagc caatccaact gacctagtga aggttcagat gcaaatggaa  
 720  
 ggaaaaagga aactggaagg aaaaccattg cgatttcgtg gtgtacatca tgcatttgca  
 780  
 aaaatcttag ctgaaggagg aatacgaggg ctttgggcag gctgggta  
 828

&lt;210&gt; 3672

<211> 124  
 <212> PRT  
 <213> Homo sapiens

<400> 3672

```

Met Ser Glu Cys Pro Leu Ile Leu Tyr Ile His Lys His Ile Asp Thr
 1           5           10           15
Tyr Ser Gln Ser Tyr Leu Phe Asn Asp Leu Phe Tyr Pro Val Tyr Ser
 20           25           30
Gly Gly Arg Met Val Thr Tyr Glu His Leu Arg Glu Val Val Phe Gly
 35           40           45
Lys Ser Glu Asp Glu His Tyr Pro Leu Trp Lys Ser Val Ile Gly Gly
 50           55           60
Met Met Ala Gly Val Ile Gly Gln Phe Leu Ala Asn Pro Thr Asp Leu
 65           70           75           80
Val Lys Val Gln Met Gln Met Glu Gly Lys Arg Lys Leu Glu Gly Lys
 85           90           95
Pro Leu Arg Phe Arg Gly Val His His Ala Phe Ala Lys Ile Leu Ala
 100          105          110
Glu Gly Gly Ile Arg Gly Leu Trp Ala Gly Trp Val
 115          120

```

<210> 3673  
 <211> 1052  
 <212> DNA  
 <213> Homo sapiens

<400> 3673

```

nagatctcaa aatctggact tgaaaagaat tccttgatct atgaactttt ctctgttatg
60
gttcattctg ggagcgctgc tgggtggtcat tattatgcat gtataaagtc attcagtgat
120
gagcagtggt acagcttcaa tgatcaacat gtcagcagga taacacaaga ggacattaag
180
aaaacacatg gtggatcttc aggaagcaga ggatattatt ctagtgtttt cgcaagttcc
240
acaaatgcat atatgctgat ctatagactg aaggatccag ccagaaatgc aaaatttcta
300
gaagtggatg aatacccaga acatattaaa aacttggtgc agaaagagag agagttggaa
360
gaacaagaaa agagacaacg agaaattgag cgcaatacat gcaagataaa attattctgt
420
ttgcatccta caaaacaagt aatgatggaa aataaattgg aggttcataa ggataagaca
480
ttaaaggaag cagtagaaat ggcttataag atgatggatt tagaagaggt aatacccctg
540
gattgctgtc gccttggtta atatgatgag ttctatgatt atctagaacg gtcatatgaa
600
ggagaagaag atacaccaat ggggcttcta ctagggtggcg tcaagtcaac atatatgttt
660
gatctgctgt tggagacgag aaagcctgat cagggttttcc aatcttataa acctggaggg
720
gagccatttt acaccatttt tagttggtct gtacttagaa ttttcctgag aaaggttttt
780

```

tttttattgt agcaatgaac ataatttaca ttttgatat ggtcttaca tgtagaataa  
 840  
 ttttgacagg ttgagaagta ctcagcacca gcttgggaatt aagttctaga ttacttgcaa  
 900  
 agagttgtgt acataatttt aaaaacaaca aaaaacaaca aagcttctag cttacggctct  
 960  
 tcagtggggtt ttttcttctc cagtgggcgg tactgaatca ttctggatgc tgtcaatccc  
 1020  
 taaagttatc aattgctctc ttaggaagat ct  
 1052

<210> 3674

<211> 263

<212> PRT

<213> Homo sapiens

<400> 3674

Xaa	Ile	Ser	Lys	Ser	Gly	Leu	Glu	Lys	Asn	Ser	Leu	Ile	Tyr	Glu	Leu	1	5	10	15
Phe	Ser	Val	Met	Val	His	Ser	Gly	Ser	Ala	Ala	Gly	Gly	His	Tyr	Tyr	20	25	30	
Ala	Cys	Ile	Lys	Ser	Phe	Ser	Asp	Glu	Gln	Trp	Tyr	Ser	Phe	Asn	Asp	35	40	45	
Gln	His	Val	Ser	Arg	Ile	Thr	Gln	Glu	Asp	Ile	Lys	Lys	Thr	His	Gly	50	55	60	
Gly	Ser	Ser	Gly	Ser	Arg	Gly	Tyr	Tyr	Ser	Ser	Ala	Phe	Ala	Ser	Ser	65	70	75	80
Thr	Asn	Ala	Tyr	Met	Leu	Ile	Tyr	Arg	Leu	Lys	Asp	Pro	Ala	Arg	Asn	85	90	95	
Ala	Lys	Phe	Leu	Glu	Val	Asp	Glu	Tyr	Pro	Glu	His	Ile	Lys	Asn	Leu	100	105	110	
Val	Gln	Lys	Glu	Arg	Glu	Leu	Glu	Gln	Glu	Lys	Arg	Gln	Arg	Glu		115	120	125	
Ile	Glu	Arg	Asn	Thr	Cys	Lys	Ile	Lys	Leu	Phe	Cys	Leu	His	Pro	Thr	130	135	140	
Lys	Gln	Val	Met	Met	Glu	Asn	Lys	Leu	Glu	Val	His	Lys	Asp	Lys	Thr	145	150	155	160
Leu	Lys	Glu	Ala	Val	Glu	Met	Ala	Tyr	Lys	Met	Met	Asp	Leu	Glu	Glu	165	170	175	
Val	Ile	Pro	Leu	Asp	Cys	Cys	Arg	Leu	Val	Lys	Tyr	Asp	Glu	Phe	His	180	185	190	
Asp	Tyr	Leu	Glu	Arg	Ser	Tyr	Glu	Gly	Glu	Glu	Asp	Thr	Pro	Met	Gly	195	200	205	
Leu	Leu	Leu	Gly	Gly	Val	Lys	Ser	Thr	Tyr	Met	Phe	Asp	Leu	Leu	Leu	210	215	220	
Glu	Thr	Arg	Lys	Pro	Asp	Gln	Val	Phe	Gln	Ser	Tyr	Lys	Pro	Gly	Gly	225	230	235	240
Glu	Pro	Phe	Tyr	Thr	Ile	Phe	Ser	Trp	Ser	Val	Leu	Arg	Ile	Phe	Leu	245	250	255	
Arg	Lys	Val	Phe	Phe	Leu	Leu										260			

<210> 3675

<211> 837

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3675

nntccggaga tgtgaagaag gggggcgagc ggacaggaag atgaagggag caaagctgcc  
 60  
 cgccgcggga caggcgtcta ggtgaacaag aaaatgaccg aagaaacaca cccagacgat  
 120  
 gacagctata ttgtgcgtgt caaggctgtg gttatgacca gagatgactc cagcggggga  
 180  
 tggttcccac aggaaggagg cgggatcagt cgcgtcgggg tctgtaagggt catgcacccc  
 240  
 gaaggcaatg gacgaagcgg ctttctcatc catggtgaac gacagaaaga caaactggtg  
 300  
 gtattggaat gctatgtaag aaaggacttg gtctacacca aagccaatcc aacgtttcat  
 360  
 cactggaagg tcgataatag gaagtttga cttactttcc aaagccctgc tgatgcccga  
 420  
 gcctttgaca ggggagtaag gaaagcaatc gaagacctta tagaagaagt agaaaatgat  
 480  
 tctggcgggc ccagaaggct cctggcctac ccactgtcct cctgtaatca gaggcccagg  
 540  
 gtgtacagct gccactgaaa aggaaggga tctgtgacct ctggagccct ggttcggttt  
 600  
 aggccttggc ctatgggtaa gtgagtagta ggcattgtgt tacatctgat cgtggcctgg  
 660  
 agggcccttg ggcagtcagt tctcatggtg ggcttgacta gagtccacag atgcaaacac  
 720  
 aaaaattctc cactgcagca catccaggta tcaaatacaga gggttaaaga agccatagac  
 780  
 agggccctgt gaagaaagaa atatcaagca aggcattgta ataccaaatt cagatct  
 837

&lt;210&gt; 3676

&lt;211&gt; 154

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3676

Met	Thr	Glu	Glu	Thr	His	Pro	Asp	Asp	Asp	Ser	Tyr	Ile	Val	Arg	Val
1				5					10					15	
Lys	Ala	Val	Val	Met	Thr	Arg	Asp	Asp	Ser	Ser	Gly	Gly	Trp	Phe	Pro
			20					25					30		
Gln	Glu	Gly	Gly	Gly	Ile	Ser	Arg	Val	Gly	Val	Cys	Lys	Val	Met	His
		35					40				45				
Pro	Glu	Gly	Asn	Gly	Arg	Ser	Gly	Phe	Leu	Ile	His	Gly	Glu	Arg	Gln
	50				55					60					
Lys	Asp	Lys	Leu	Val	Val	Leu	Glu	Cys	Tyr	Val	Arg	Lys	Asp	Leu	Val
65				70					75					80	
Tyr	Thr	Lys	Ala	Asn	Pro	Thr	Phe	His	His	Trp	Lys	Val	Asp	Asn	Arg
			85					90					95		
Lys	Phe	Gly	Leu	Thr	Phe	Gln	Ser	Pro	Ala	Asp	Ala	Arg	Ala	Phe	Asp
		100					105					110			
Arg	Gly	Val	Arg	Lys	Ala	Ile	Glu	Asp	Leu	Ile	Glu	Glu	Val	Glu	Asn

115 120 125  
 Asp Ser Gly Gly Pro Arg Arg Leu Leu Ala Tyr Pro Leu Ser Ser Cys  
 130 135 140  
 Asn Gln Arg Pro Arg Val Tyr Ser Cys His  
 145 150

<210> 3677  
 <211> 418  
 <212> DNA  
 <213> Homo sapiens

<400> 3677  
 nnggaagaag gcccttctca aaatggactg gtgttgagg gtgagaagct gccccctgac  
 60  
 ttcatgccaa agctcgtaaa gaatctccta ggcgagatgc ctctgtgggt ctgccagagt  
 120  
 tgccgaaaga gcatggagga agatgaaagg cagacaggtc gagaacatgc agtggcgatc  
 180  
 tccttgtcac acacatcctg caaatcacag tcttgtggag atgactctca ttcgtcctcg  
 240  
 tcttcctcct catcatcctc atcctcgtec tctcttctct gccctgggaa ctggggagac  
 300  
 tgggatacta gctcgttcct gtcggcacat aagctctcgg gcctctggaa ttccccacat  
 360  
 tccagtgggg ccattgccagg cagctctctt gggagtcctc ctaccatccc tggcgcg  
 418

<210> 3678  
 <211> 139  
 <212> PRT  
 <213> Homo sapiens

<400> 3678  
 Xaa Glu Glu Gly Pro Ser Gln Asn Gly Leu Val Leu Gln Gly Glu Lys  
 1 5 10 15  
 Leu Pro Pro Asp Phe Met Pro Lys Leu Val Lys Asn Leu Leu Gly Glu  
 20 25 30  
 Met Pro Leu Trp Val Cys Gln Ser Cys Arg Lys Ser Met Glu Glu Asp  
 35 40 45  
 Glu Arg Gln Thr Gly Arg Glu His Ala Val Ala Ile Ser Leu Ser His  
 50 55 60  
 Thr Ser Cys Lys Ser Gln Ser Cys Gly Asp Asp Ser His Ser Ser Ser  
 65 70 75 80  
 Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Cys Pro Gly  
 85 90 95  
 Asn Ser Gly Asp Trp Asp Pro Ser Ser Phe Leu Ser Ala His Lys Leu  
 100 105 110  
 Ser Gly Leu Trp Asn Ser Pro His Ser Ser Gly Ala Met Pro Gly Ser  
 115 120 125  
 Ser Leu Gly Ser Pro Pro Thr Ile Pro Gly Ala  
 130 135

<210> 3679  
 <211> 567

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3679

cgcgtgaagg gctatgacct ggagttaagt atggcgctgg ggacatacta cccacctccc  
 60  
 cgcctcaggc agctgctccc catgcttctt caggaacaa gtatcttcac tgcccctaag  
 120  
 gagatcgag agatcaaggc ccagctggag acagccctga agtggaggaa ctatgaggtg  
 180  
 aagctgcggc tgctgctgca cctggaggaa ctgcagatgg agcatgatat ccggcactat  
 240  
 gacctggagt cggtgcccat gacctgggac cctgtggacc agaaccacag gctgctcacg  
 300  
 ctggagggttc ctggagtgc tgagagccgc cctcagtgac tacggggcga ccacctgttt  
 360  
 gcccttttgt cctcggagac acaccaggag gaccccatca catataaggg ctttgtgcac  
 420  
 aagggtggaat tggaccgtgt caagctgagc ttttccatga gcctcctgag ccgctttgtg  
 480  
 gatgggctga ccttcaaggt gaactttacc ttcaaccgcc agccgctgcg agtccagcac  
 540  
 cgtgcctggg agttgacagg gcgctgg  
 567

&lt;210&gt; 3680

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3680

Arg Val Lys Gly Tyr Asp Leu Glu Leu Ser Met Ala Leu Gly Thr Tyr  
 1 5 10 15  
 Tyr Pro Pro Pro Arg Leu Arg Gln Leu Leu Pro Met Leu Leu Gln Gly  
 20 25 30  
 Thr Ser Ile Phe Thr Ala Pro Lys Glu Ile Ala Glu Ile Lys Ala Gln  
 35 40 45  
 Leu Glu Thr Ala Leu Lys Trp Arg Asn Tyr Glu Val Lys Leu Arg Leu  
 50 55 60  
 Leu Leu His Leu Glu Glu Leu Gln Met Glu His Asp Ile Arg His Tyr  
 65 70 75 80  
 Asp Leu Glu Ser Val Pro Met Thr Trp Asp Pro Val Asp Gln Asn Pro  
 85 90 95  
 Arg Leu Leu Thr Leu Glu Val Pro Gly Val Thr Glu Ser Arg Pro Ser  
 100 105 110  
 Val Leu Arg Gly Asp His Leu Phe Ala Leu Leu Ser Ser Glu Thr His  
 115 120 125  
 Gln Glu Asp Pro Ile Thr Tyr Lys Gly Phe Val His Lys Val Glu Leu  
 130 135 140  
 Asp Arg Val Lys Leu Ser Phe Ser Met Ser Leu Leu Ser Arg Phe Val  
 145 150 155 160  
 Asp Gly Leu Thr Phe Lys Val Asn Phe Thr Phe Asn Arg Gln Pro Leu  
 165 170 175  
 Arg Val Gln His Arg Ala Trp Glu Leu Thr Gly Arg Trp

180

185

&lt;210&gt; 3681

&lt;211&gt; 788

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3681

nntgggcagt gtactcgggc ctccccgaca gcagctcctg tggggagcgc tcaccaccac  
 60  
 ccccgctcc acttccttcg gatgaggccc tgctgcactg tgcctggaa ggaaagctcc  
 120  
 gagaccggga ggcagagctt cagcagctgc gggacagcct ggggctgagc atggagcagc  
 180  
 gcggcggagg tcgctgcga ggccgctggc caggcctgag cctctgccac catggccatt  
 240  
 gtgcagactc tgccagtgcc actggagcct gctcctgaag ctgccactgc cccacaagct  
 300  
 ccagtcatgg gtagtgtgag cagccttacc tcaggccggc cctgtcccg ggggccagct  
 360  
 cctccccgcc accacggccc tcctgggccc accttcttcc gccagcagga tggcctgcta  
 420  
 cggggtggct atgaggcaca ggagccgctg tgcccagctg tgccccctag gaaggctgtc  
 480  
 cctgtcacca gcttcaccta catcaatgag gacttccgga cagagtcacc cccagccca  
 540  
 agcagtgatg ttgaggatgc ccgagagcag cgggcacaca atgccacct ccgcggccca  
 600  
 ccaccaaagc tcacccctgt ctctggaaag ctggagaaga acatagagaa gatectgate  
 660  
 cgcccaacag ccttcaagcc agtgctgccc aaacctcgag gggctccgtc cctgcctagc  
 720  
 ttcattgggtc ctggggccac cgggctgtct gggagccagg gcagcctgac gcagctgttt  
 780  
 gggggccc  
 788

&lt;210&gt; 3682

&lt;211&gt; 185

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3682

Met Ala Ile Val Gln Thr Leu Pro Val Pro Leu Glu Pro Ala Pro Glu  
 1 5 10 15  
 Ala Ala Thr Ala Pro Gln Ala Pro Val Met Gly Ser Val Ser Ser Leu  
 20 25 30  
 Ile Ser Gly Arg Pro Cys Pro Gly Gly Pro Ala Pro Pro Arg His His  
 35 40 45  
 Gly Pro Pro Gly Pro Thr Phe Phe Arg Gln Gln Asp Gly Leu Leu Arg  
 50 55 60  
 Gly Gly Tyr Glu Ala Gln Glu Pro Leu Cys Pro Ala Val Pro Pro Arg  
 65 70 75 80  
 Lys Ala Val Pro Val Thr Ser Phe Thr Tyr Ile Asn Glu Asp Phe Arg



85 90 95  
 Thr Glu Ser Pro Pro Ser Pro Ser Ser Asp Val Glu Asp Ala Arg Glu  
 100 105 110  
 Gln Arg Ala His Asn Ala His Leu Arg Gly Pro Pro Pro Lys Leu Ile  
 115 120 125  
 Pro Val Ser Gly Lys Leu Glu Lys Asn Ile Glu Lys Ile Leu Ile Arg  
 130 135 140  
 Pro Thr Ala Phe Lys Pro Val Leu Pro Lys Pro Arg Gly Ala Pro Ser  
 145 150 155 160  
 Leu Pro Ser Phe Met Gly Pro Arg Ala Thr Gly Leu Ser Gly Ser Gln  
 165 170 175  
 Gly Ser Leu Thr Gln Leu Phe Gly Gly  
 180 185

&lt;210&gt; 3683

&lt;211&gt; 4421

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3683

gcggccgctc gcgcgcagcc ccgcacctcc gcccctgcct ctgcctcctg ggccatgccc  
 60  
 tgctgtttac atgccggtga ggtccccggc cgctccgaac cctccgagc cccggctccc  
 120  
 cgagggtgaa gcccgccggc ccgcgaactg gactggtgga tctctcagac ctggggcccc  
 180  
 ggactccgat ctccgccgct tccgccacca tcaggcgagg atccggtctt ggtgttttga  
 240  
 ggagggggtg tgggtgtaggg aaaggaatcc cgtccctctc cacctttttt cgccttcggg  
 300  
 gcttcagact cagggaactc gctcatggct ttcttgatga agaagaagaa attcaaattc  
 360  
 caaactactt tcaccctgga ggagctgact gcggttccct tcgtgaacgg ggtcctcttc  
 420  
 tgcaagggtc ggctgctgga tggaggggat tttgtcagct tgtcgtcaag ggaggaggta  
 480  
 caggagaact gtgtgcggtg gcgaaagagg ttcaccttcg tgtgtaagat gagtgctaac  
 540  
 ccggccaccg gcctgctgga cccctgtgtc ttccgtgtgt ctgtgcgcaa ggagctgaaa  
 600  
 ggcggaagg cttattccaa gctgggcttc gctgacttga acctggccga gtttgcgggc  
 660  
 tcgggctcca cgggtgcgctg ctgcctgctc gagggatatg acacgaagaa cactcgccag  
 720  
 gacaactcca tccttaaggt caccattggt atgttctctg tctctggaga tccctgcttc  
 780  
 aagacgccac catcgactgc caagtccatc tccatcccag gccaggattc ctccctgcag  
 840  
 ctgacgtgta aggggtggtg gaccagcagt gggggcagca gcaccaactc cctgactggg  
 900  
 tccgggcccc ccaaggctcg gccactatt ctgagctcag ggctgccaga ggaacccgac  
 960  
 cagaacctgt ccagccctga ggaggtgttc cactctggcc actcccga ctcagctat  
 1020

gccagccagc agtccaagat ctccggctac agcacagagc actcgcactc ctccagcctc  
1080  
tcagacctga cgcaccgccg caacacgtcc accagcagca gcgcctctgg gggccttggc  
1140  
atgaccgtgg agggccctga gggcagtga cgggagcacc ggcccccgga gaagccgccg  
1200  
cggccacccc ggccctgca tctgtccgat cgctctttca ggcggaagaa ggactcggtg  
1260  
gagagccacc cgacctgggt ggacgacacg cggatcgatg cggatgccat cgtggagaag  
1320  
atcgtgcaga gccaggactt cacagatggc agcaacaccg aggacagcaa cctccggctg  
1380  
ttcgtgagcc gcgatggctc tgccacgtg agcggcatcc agcttgccac cagggtctct  
1440  
tctgggtct acgagccagt tgtgattgaa agccattgag gagcaggtgt ccgggctgga  
1500  
gaagagtcct gctttctctg gagtccagac ctgtatcatt ccatgaggaa ctttccccct  
1560  
cagatcacct ctgcgccaca tctcatccat gcctcctcca tgcactccag tccacactcc  
1620  
ccgtagcatc attccattgc ccctcccatc catgctggga ccctcctggc ccaccaaggc  
1680  
ccaggcacca ctgtgaatat tctcctctga accactagag ggcaggccag gcaggccagg  
1740  
cgggcccgtg cagcttgtgg gcaagaagga gctggcaagg accggcgctg ctggagactg  
1800  
accagccct ctggctgagg acatgcagca gctcctaaat gtagagatgc ctgtggctga  
1860  
gggggcctct ctacctgtgt cccactcac tccaggagca ctggctttgg tcacgtctta  
1920  
gcagcagggc cttgctccgt tgttccctg ccctgggtgt gggggggcca gaccgcctcc  
1980  
ggaatcctgc cacctgtgac tgtctgactg cttagtgtt cagctgtccc ttccttgtgt  
2040  
cctgggggac ctgctggcgg cctcttctg ggagccatga cctcagacc caccacact  
2100  
ccagatcgag acccctgcct cccccggca aatgtctcc cgtgccttg cagcctgcac  
2160  
tttgacatg ctacccccca gcacagtcct actggccct cactccct tccctgagct  
2220  
ccttcccaag gactcctggt cactgctgc tgtgcagtca gaggccagg gtccagcagc  
2280  
ccggcgggaa cgggtgctgc ctcttctcc agttagctcc agctcaggtc tgagaccctg  
2340  
gctgagaaag gtctgagcac cgaccgtgcc ctctgcccag ggctgggtcc tgagcagctg  
2400  
gttttctgc aggaagggtg gagcaagcaa agtccttctc tgccctcagg gtcagctgcc  
2460  
cagactgggg cggatgccag agaggcaggt gggctgtggc tggactggtc cggagctggc  
2520  
ttccttacca gaaaagcctc agccttctc tggaaagcat ccccgttctg ggcaaggggg  
2580  
aagggtcct ttaaggggtg tgctttccca gtggggagca gtctggcct gcccctact  
2640

aaagcctctg ctctcagcac tttcccccaa gtccttgtaa cttgcttgaa ggtgggttct  
2700  
ggctgccagc cagtccctgg acaaactctc ctgccccttt taaatttcac tcattttgta  
2760  
taaaccagc aggtggtgt ttacttagcc ctgtagcttt tttcattttt tctttccgtc  
2820  
tttcttcttg agttcacggt tcaatattgc ctctcgccc tggtgagggg aggtgctgct  
2880  
tttctgcccc acctgccggc tggttccagc agcgctgggg ccagctggg gggccgggat  
2940  
gggggcttct ctctctggga ggggtgcagg tgccctcccc aggtggggag ggttcttcc  
3000  
ctagctcccc atctgcccc gctggtgaga gttgggcttc ttggtcttg aactccctgg  
3060  
cattgggaac agagcatttc cagcatttgt tgttggtgt ttactcacct aacccttaga  
3120  
aaatgaatgt tagaaggtgc ctgccgagc gggacagagt gtttgctcgc gctggagaag  
3180  
gctctgctca gccctgagag tcccttcctg cccaccgat actggcactt taaaaggaa  
3240  
gctgaccga cagtgtccag acgaattggc cccagaaga tggggagtgc tgtcctgccc  
3300  
ttctgtgtct gcgtgacctc acccagccta ggaggagggt gcattcaggg tagatttgcc  
3360  
tctcattcaa agttctgggg ctttgggagg aaaacagcca gctttggcgc tgttggggag  
3420  
actcctccag accaggaacc ccagaaggag acagagcctg ccacatctc ccacgccagg  
3480  
ccctgggcca gggtgattgg actgagaatt tggccacaac caaattgatg ctggctggaa  
3540  
ccagaggcca gaaagcctgg ccttgctccc atgtgggagc cctgtctca gccctcttgt  
3600  
ccccttgagc tcagtgaatt cccaccagggt gccacagct cctggacttc aaattctata  
3660  
tattgagaga gttggagagt atatcagaga tatttttgga aaggagttgg tctatgcaat  
3720  
gtcagtttg aatcttcttg aaagttaat gtttttatta ggagatttaa agaaaataaa  
3780  
ggtctacaat atcttttaggt tttttttttt tctgtttac cgcacaaact gaccacatgg  
3840  
catgtctatc aggatggagg gtgtccatgt tctcctctgt ctttagggag gtgataagga  
3900  
gatgggagga ggggtgtttt tttctttgac tcccctcctt tctaacagaa tgttgccacc  
3960  
actgcttgag tgggctgtgt ttgttctct gtcccagctt cttgttactt tatcatattg  
4020  
actttagggt caaaggcaac atcagaagaa gtcagatatg tatagtgaca ttccaggggt  
4080  
ggggaagggt tagggatcca gggttctccc ggtcttgcc acaggcacia tcatcacctt  
4140  
catcgttcca gattcctggg gagaaaactg agaagatcgt tacctgccag cctcatacgg  
4200  
agcaaaagct ctgtcctcag ggccaagtgc taaccactgc tctgtagacc ttctctgcaa  
4260

tcaagtggcc tctaaggagc atgcctgagg acaaataact gtgcctcagt ttcctcacct  
 4320  
 gcagatgggg ttatcaaata acacgagtgt gcagcctgac ctgcaggagg tgtgagtgtg  
 4380  
 ttcccaaact aaagccccag gctgccatca ttacaggct a  
 4421

<210> 3684

<211> 384

<212> PRT

<213> Homo sapiens

<400> 3684

Met	Ala	Phe	Leu	Met	Lys	Lys	Lys	Lys	Phe	Lys	Phe	Gln	Thr	Thr	Phe
1				5					10					15	
Thr	Leu	Glu	Glu	Leu	Thr	Ala	Val	Pro	Phe	Val	Asn	Gly	Val	Leu	Phe
			20					25					30		
Cys	Lys	Val	Arg	Leu	Leu	Asp	Gly	Gly	Asp	Phe	Val	Ser	Leu	Ser	Ser
		35				40						45			
Arg	Glu	Glu	Val	Gln	Glu	Asn	Cys	Val	Arg	Trp	Arg	Lys	Arg	Phe	Thr
	50					55					60				
Phe	Val	Cys	Lys	Met	Ser	Ala	Asn	Pro	Ala	Thr	Gly	Leu	Leu	Asp	Pro
65					70					75				80	
Cys	Val	Phe	Arg	Val	Ser	Val	Arg	Lys	Glu	Leu	Lys	Gly	Gly	Lys	Ala
			85						90					95	
Tyr	Ser	Lys	Leu	Gly	Phe	Ala	Asp	Leu	Asn	Leu	Ala	Glu	Phe	Ala	Gly
			100					105					110		
Ser	Gly	Ser	Thr	Val	Arg	Cys	Cys	Leu	Leu	Glu	Gly	Tyr	Asp	Thr	Lys
		115					120					125			
Asn	Thr	Arg	Gln	Asp	Asn	Ser	Ile	Leu	Lys	Val	Thr	Ile	Gly	Met	Phe
	130					135						140			
Leu	Leu	Ser	Gly	Asp	Pro	Cys	Phe	Lys	Thr	Pro	Pro	Ser	Thr	Ala	Lys
145					150					155					160
Ser	Ile	Ser	Ile	Pro	Gly	Gln	Asp	Ser	Ser	Leu	Gln	Leu	Thr	Cys	Lys
			165					170						175	
Gly	Gly	Gly	Thr	Ser	Ser	Gly	Gly	Ser	Ser	Thr	Asn	Ser	Leu	Thr	Gly
			180					185					190		
Ser	Arg	Pro	Pro	Lys	Ala	Arg	Pro	Thr	Ile	Leu	Ser	Ser	Gly	Leu	Pro
		195					200					205			
Glu	Glu	Pro	Asp	Gln	Asn	Leu	Ser	Ser	Pro	Glu	Glu	Val	Phe	His	Ser
	210					215					220				
Gly	His	Ser	Arg	Asn	Ser	Ser	Tyr	Ala	Ser	Gln	Gln	Ser	Lys	Ile	Ser
225					230					235				240	
Gly	Tyr	Ser	Thr	Glu	His	Ser	His	Ser	Ser	Ser	Leu	Ser	Asp	Leu	Thr
			245					250						255	
His	Arg	Arg	Asn	Thr	Ser	Thr	Ser	Ser	Ser	Ala	Ser	Gly	Gly	Leu	Gly
			260					265					270		
Met	Thr	Val	Glu	Gly	Pro	Glu	Gly	Ser	Glu	Arg	Glu	His	Arg	Pro	Pro
		275					280					285			
Glu	Lys	Pro	Pro	Arg	Pro	Pro	Arg	Pro	Leu	His	Leu	Ser	Asp	Arg	Ser
		290				295					300				
Phe	Arg	Arg	Lys	Lys	Asp	Ser	Val	Glu	Ser	His	Pro	Thr	Trp	Val	Asp
305					310					315				320	
Asp	Thr	Arg	Ile	Asp	Ala	Asp	Ala	Ile	Val	Glu	Lys	Ile	Val	Gln	Ser

	325		330		335
Gln Asp Phe Thr Asp Gly Ser Asn Thr Glu Asp Ser Asn Leu Arg Leu					
	340		345		350
Phe Val Ser Arg Asp Gly Ser Ala Thr Leu Ser Gly Ile Gln Leu Ala					
	355		360		365
Thr Arg Val Ser Ser Gly Val Tyr Glu Pro Val Val Ile Glu Ser His					
370	375		380		

&lt;210&gt; 3685

&lt;211&gt; 1293

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3685

tccatgcagc gatccccttg gccagaagaa ggtccattca ttcagttggg gggttcatct  
60

cagacaacct ccggtcatca ccccttgagt gagacctaa ccttcaccgc agccttcgag  
120

gtgccgtggc ctgggtgggccc cctcctgct cctctgtggc tctccccgcc gccattctga  
180

tactggcgct cccaatctcc ttgagaaacc attttctcta ctctgatgtc ttttcagaag  
240

tcacatcctg ttctggggat gcacccctgc tctccagcc ccacccaaac tgacttaaca  
300

cccaccacc ttcccaggtc agcccaaagt ccacttcccc caggaagctc tccctgatgc  
360

tgccctggat ggaatgagtc agacctgctg ttgtggggcc ctggccgcgc ctagatacac  
420

ttctagggct tatactcgag tatccaggtg atctagggct tatactcgag tatccaggtg  
480

accacactgc tgaagttggc ttctcctgat caggcatcaa ctctgggact gcgtttgccc  
540

attctgttcc ctaacgcagc cgcagggggc agcacgctgc ctggcacgctc atgggggctc  
600

ctccatgttg ggtggatatg cgaacggctt cctgagaaaag tgcaggatgt aaaggaacgc  
660

ggaggggtggc ggcggcgtgg agggcagagg caaggcacac ggcgaggact gcgttgggccc  
720

ggcctgtggc ctgtttcaca gcagacaggg aatagcagca gcctgcagtg tgcctcagaa  
780

gacagtgggg aaggggcctg gctgacatct cgccaccggt tcagcctgta tctccttcc  
840

cccatctttc tgtgatcata aaggatccct tgagccactt gattttcaca ctgtcaatga  
900

cctagagtca ccaaacacct ctcaacaagc cgtgggtctcc acttgacatc tggaacaacg  
960

ctcctcgggt ctgggaggac cacgcgtcga aagggaagag cagaggacgc tggctctcat  
1020

ggcaggatgg tgtgtgtacg ggacgcgtct ttcgggagga tgacggcggc cttggagagc  
1080

cccagaatgt cacaagcgtc catgaattcc ttcagactct ggaagctcga aacattctgc  
1140

ctatctgagg ttgagatcag gatcacatca gagactccag ctctggccat tttagggctc  
1200

gcaccctgac ccccatccct accccaggag ctgctgaaat gtcctcagag cttaggcgtg  
 1260  
 aagcaggggt tggtcagggg aggacagcgg ccg  
 1293

<210> 3686  
 <211> I11  
 <212> PRT  
 <213> Homo sapiens

<400> 3686  
 Met Gly Glu Gly Gly Tyr Arg Leu Thr Gly Trp Arg Asp Val Ser Gln  
 1 5 10 15  
 Ala Pro Ser Pro Leu Ser Ser Gly Ala His Cys Arg Leu Leu Phe  
 20 25 30  
 Pro Val Cys Cys Glu Thr Asp His Arg Pro Ala Gln Arg Ser Pro Arg  
 35 40 45  
 Arg Val Pro Cys Leu Cys Pro Pro Arg Arg Arg His Pro Pro Arg Ser  
 50 55 60  
 Phe Thr Ser Cys Thr Phe Ser Gly Ser Arg Ser His Ile His Pro Thr  
 65 70 75 80  
 Trp Arg Ser Pro His Asp Val Pro Gly Ser Val Leu Ala Pro Ala Ala  
 85 90 95  
 Ala Leu Gly Asn Arg Ile Gly Lys Arg Ser Pro Arg Val Asp Ala  
 100 105 110

<210> 3687  
 <211> 566  
 <212> DNA  
 <213> Homo sapiens

<400> 3687  
 nncggggcca agctcaaagc ttccagccgc acgtctgcct tgctctcggg cttcgccatg  
 60  
 gtggccatgg tggaggtgca gctggagagt gaccacgagt acccaccagg cctgctgggtg  
 120  
 gctgtgcacc tctttgcact catgngtctc cacgtgtctg ctgccccaca ttgaagctgt  
 180  
 nngagcaaca tccacaacct caactctgtc caccagtcgc cacaccagag actgcaccgc  
 240  
 tacgtggagc tggcctgggg cttctccact gccctgggca cttttctctt ccttgtctgaa  
 300  
 gttgtcctgg ttggttgggt caagtttgtg cccattgggg ctcccttgga cacaccgacc  
 360  
 cccatgggtgc ccacatcccg ggtgcccggt actctggcac cagtggctac ctcccttagt  
 420  
 ccagcttcca atctcccacg gtcctctgag tctgcagcac cgtcccagga tgagccagcc  
 480  
 tgcccacccc ggcaagcctg tgggtgggtg ggggcccatt ggccaggctg gcaagcagcc  
 540  
 atggcctcca cagccatcat ggtacc  
 566

<210> 3688

<211> 57  
 <212> PRT  
 <213> Homo sapiens

<400> 3688  
 Xaa Gly Ala Lys Leu Lys Ala Ser Ser Arg Thr Ser Ala Leu Leu Ser  
 1 5 10 15  
 Gly Phe Ala Met Val Ala Met Val Glu Val Gln Leu Glu Ser Asp His  
 20 25 30  
 Glu Tyr Pro Pro Gly Leu Leu Val Ala Val His Leu Phe Ala Leu Met  
 35 40 45  
 Xaa Leu His Val Ser Ala Ala Pro His  
 50 55

<210> 3689  
 <211> 1562  
 <212> DNA  
 <213> Homo sapiens

<400> 3689  
 ggggttggggg ggccggagca gagagcacc agcccgagg gtggatgaat gtgggagaaa  
 60  
 atggagacca agacgatcgt gtacgacttg gacacatcag gggggctgat ggagcaaattc  
 120  
 caagctctgc tggctcccc caagacggac gaggcagaaa agcgcagtcg gaagcctgag  
 180  
 aaggagcccc ggagaagcgg cagggccacc aaccacgaca gctgcgatag ctgcaaggaa  
 240  
 ggtggagatc tctgtgctg cgaccactgc ccggtgcct tccacctcca gtgctgtaac  
 300  
 cctccactga gtgaagaaat gttgcctcct ggagagtga tgtgtcaccg gtgcaactgtt  
 360  
 cgccgaaaga aacgagagca gaaaaaggag ctgggtcatg tcaatggact ggtggacaaa  
 420  
 tctggcaaac ggactacatc ccccgagcgt gacactgact tgttgagacag atcggccagc  
 480  
 aaaactgaac taaaggccat tgcccatgcc cggatcctgg aaaggagagc cagcaggcct  
 540  
 ggcacaccca catccagcgc cagcacagag actccacact ctgagcagaa tgatgtcgac  
 600  
 gaagacatca ttgacgtgga tgaggaacca gtgacagcgg agccagacta tgtgcagccc  
 660  
 cagctgaggc ggccctttga gctgctgatt gctgccgcca tggagcggaa cccacccaa  
 720  
 ttccagttgc ccaatgaact gacttgtacc actgcactac caggttctag caagaggaga  
 780  
 agaaaggagg aaaccacagg gaaaaatggt aagaagacac agcatgaatt agatcacaat  
 840  
 ggtctcgttc ccttaccgt caaagtctgc ttcacgtgta acaggagttg ccgtgtggct  
 900  
 cctctcatcc agtgtgacta ttgccctctc ctgtttcaca tggattgcct cgagccgccg  
 960  
 ctacttgcca tgccctggg cagatggatg tgtccgaatc acatcgaaca tgtggtgctg  
 1020

aaccagaaga atatgacact gagcaatcgg tgccaggtgt ttgatcggtt ccaggacacc  
1080  
gtttcgagc atgtcgtaa agtggacttc ctgaaccgaa tccacaagaa gcacccccct  
1140  
aaccggcgtg tgctccagtc ggtcaaaaga agaagcttga aggttcctga tgctataaaa  
1200  
tctcagtacc agtttccacc ccctctcatt gcacccgcgg ccattcggga cggggagctg  
1260  
atctgcaatg ggatccctga ggaatcacag atgcaccttt tgaactctga gcacttagcc  
1320  
acccaagcag agcagcaaga gtggctctgt agtggttgtt cgctccagtg cagcatattg  
1380  
aacatttat ctgctaagca gatgccttcg cattgggact ctgaacagac agagaaggct  
1440  
gatattaagc ctgttattgt gactgacagc tcagtcacca cctccctgca aacagctgac  
1500  
aagacaccta caccttccca ctaccccttg tcctgcccct cagggattag caccagaat  
1560  
tc  
1562

&lt;210&gt; 3690

&lt;211&gt; 504

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3690

Met	Trp	Glu	Lys	Met	Glu	Thr	Lys	Thr	Ile	Val	Tyr	Asp	Leu	Asp	Thr
1				5					10					15	
Ser	Gly	Gly	Leu	Met	Glu	Gln	Ile	Gln	Ala	Leu	Leu	Ala	Pro	Pro	Lys
			20					25					30		
Thr	Asp	Glu	Ala	Glu	Lys	Arg	Ser	Arg	Lys	Pro	Glu	Lys	Glu	Pro	Arg
		35					40					45			
Arg	Ser	Gly	Arg	Ala	Thr	Asn	His	Asp	Ser	Cys	Asp	Ser	Cys	Lys	Glu
		50				55					60				
Gly	Gly	Asp	Leu	Leu	Cys	Cys	Asp	His	Cys	Pro	Ala	Ala	Phe	His	Leu
65					70				75					80	
Gln	Cys	Cys	Asn	Pro	Pro	Leu	Ser	Glu	Glu	Met	Leu	Pro	Pro	Gly	Glu
			85						90					95	
Trp	Met	Cys	His	Arg	Cys	Thr	Val	Arg	Arg	Lys	Lys	Arg	Glu	Gln	Lys
			100					105					110		
Lys	Glu	Leu	Gly	His	Val	Asn	Gly	Leu	Val	Asp	Lys	Ser	Gly	Lys	Arg
		115					120					125			
Thr	Thr	Ser	Pro	Ser	Ser	Asp	Thr	Asp	Leu	Leu	Asp	Arg	Ser	Ala	Ser
		130				135					140				
Lys	Thr	Glu	Leu	Lys	Ala	Ile	Ala	His	Ala	Arg	Ile	Leu	Glu	Arg	Arg
145					150				155					160	
Ala	Ser	Arg	Pro	Gly	Thr	Pro	Thr	Ser	Ser	Ala	Ser	Thr	Glu	Thr	Pro
				165				170					175		
Thr	Ser	Glu	Gln	Asn	Asp	Val	Asp	Glu	Asp	Ile	Ile	Asp	Val	Asp	Glu
			180					185					190		
Glu	Pro	Val	Ala	Ala	Glu	Pro	Asp	Tyr	Val	Gln	Pro	Gln	Leu	Arg	Arg
		195					200					205			
Pro	Phe	Glu	Leu	Leu	Ile	Ala	Ala	Ala	Met	Glu	Arg	Asn	Pro	Thr	Gln



210                      215                      220  
 Phe Gln Leu Pro Asn Glu Leu Thr Cys Thr Thr Ala Leu Pro Gly Ser  
 225                      230                      235                      240  
 Ser Lys Arg Arg Arg Lys Glu Glu Thr Thr Gly Lys Asn Val Lys Lys  
                     245                      250                      255  
 Thr Gln His Glu Leu Asp His Asn Gly Leu Val Pro Leu Pro Val Lys  
                     260                      265                      270  
 Val Cys Phe Thr Cys Asn Arg Ser Cys Arg Val Ala Pro Leu Ile Gln  
                     275                      280                      285  
 Cys Asp Tyr Cys Pro Leu Leu Phe His Met Asp Cys Leu Glu Pro Pro  
                     290                      295                      300  
 Leu Thr Ala Met Pro Leu Gly Arg Trp Met Cys Pro Asn His Ile Glu  
 305                      310                      315                      320  
 His Val Val Leu Asn Gln Lys Asn Met Thr Leu Ser Asn Arg Cys Gln  
                     325                      330                      335  
 Val Phe Asp Arg Phe Gln Asp Thr Val Ser Gln His Val Val Lys Val  
                     340                      345                      350  
 Asp Phe Leu Asn Arg Ile His Lys Lys His Pro Pro Asn Arg Arg Val  
                     355                      360                      365  
 Leu Gln Ser Val Lys Arg Arg Ser Leu Lys Val Pro Asp Ala Ile Lys  
                     370                      375                      380  
 Ser Gln Tyr Gln Phe Pro Pro Pro Leu Ile Ala Pro Ala Ala Ile Arg  
 385                      390                      395                      400  
 Asp Gly Glu Leu Ile Cys Asn Gly Ile Pro Glu Glu Ser Gln Met His  
                     405                      410                      415  
 Leu Leu Asn Ser Glu His Leu Ala Thr Gln Ala Glu Gln Gln Glu Trp  
                     420                      425                      430  
 Leu Cys Ser Val Val Ala Leu Gln Cys Ser Ile Leu Lys His Leu Ser  
                     435                      440                      445  
 Ala Lys Gln Met Pro Ser His Trp Asp Ser Glu Gln Thr Glu Lys Ala  
                     450                      455                      460  
 Asp Ile Lys Pro Val Ile Val Thr Asp Ser Ser Val Thr Thr Ser Leu  
 465                      470                      475                      480  
 Gln Thr Ala Asp Lys Thr Pro Thr Pro Ser His Tyr Pro Leu Ser Cys  
                     485                      490                      495  
 Pro Ser Gly Ile Ser Thr Gln Asn  
                     500

&lt;210&gt; 3691

&lt;211&gt; 418

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3691

ncggccgcgcg agttcgacgg gaggtggccc aggc aaatag tgtcatcgat tggcctatgt  
60

cgttatggtg ggaggattga ctgctgctgg ggctgggctc gccagtcttg gggacagtgt  
120

cagcctttct acgtcttaag gcagagaata gccaggataa ggtgccagct caaagctgtg  
180

tgccaaccac gatgcaaaca tggatgaatgt atcggggccaa acaagtgc aa gtgtcatcct  
240

ggttatgctg gaaaaacctg taatcaaggt aggaaaacag tctgacataa atacacaatc  
300

gaagacacct ctatcactcc caaattaaaa atattcttat ctcaaactac tttccatggc  
 360  
 tatttttcca aaatatgtga gctgccattt tgctgataaa taaaaatata ttaatgat  
 418

<210> 3692  
 <211> 94  
 <212> PRT  
 <213> Homo sapiens

<400> 3692  
 Xaa Ala Ala Glu Phe Asp Gly Arg Trp Pro Arg Gln Ile Val Ser Ser  
 1 5 10 15  
 Ile Gly Leu Cys Arg Tyr Gly Gly Arg Ile Asp Cys Cys Trp Gly Trp  
 20 25 30  
 Ala Arg Gln Ser Trp Gly Gln Cys Gln Pro Phe Tyr Val Leu Arg Gln  
 35 40 45  
 Arg Ile Ala Arg Ile Arg Cys Gln Leu Lys Ala Val Cys Gln Pro Arg  
 50 55 60  
 Cys Lys His Gly Glu Cys Ile Gly Pro Asn Lys Cys Lys Cys His Pro  
 65 70 75 80  
 Gly Tyr Ala Gly Lys Thr Cys Asn Gln Gly Arg Lys Thr Val  
 85 90

<210> 3693  
 <211> 2641  
 <212> DNA  
 <213> Homo sapiens

<400> 3693  
 cggccgcgctc gacgggaaag agccgctaga gcagaccgcg ccgcccgcgg agccgcgcct  
 60  
 gcccaggccc ggggagggag gagggggcg tcaggggtgct gcgccccgct cggcgctccga  
 120  
 gcttccggcc gggctgtgcc ccgcgcggtc ttcgccggga tgaagcgccc ctgcgaggag  
 180  
 acgacctccg agagcgacat ggacgagacc atcgacgtgg ggagcgagaa caattactcg  
 240  
 gggcaaagta ctagctctgt gattagattg aattctccaa caacaacatc tcagattatg  
 300  
 gcaagaaaga aaaggagagg gattatagag aaaaggcgtc gggatcggat aaataacagt  
 360  
 ttatctgagt tgagaagact tgtgccaact gcttttgaaa aacaaggatc tgcaaagtta  
 420  
 gaaaaagctg aaatattgca aatgacagtg gatcatttga agatgcttca ggcaacaggg  
 480  
 ggtaaaggct actttgacgc acacgctctt gccatggact tcatgagcat aggattccga  
 540  
 gagtgcctaa cagaagttgc gcggtacctg agctccgtgg aaggcctgga ctctcggat  
 600  
 ccgctgcggg tgcggttgt gtctcatctc agcacttgcg ccaccagcg ggaggcggcg  
 660  
 gccatgacat cctccatggc ccaccacnca tcatccgctc caccgcgcatc actgggcccgc  
 720

cgcttccac cacctgcccg cagccctgct ccagcccaac ggccctccatg cctcagagtc  
780  
aacccttgt cgctctcca caacttcaga agtgccctcg cccacggctc tgctctcctc  
840  
acggccacgt ttgcccatgc ggattcagcc ctccgaatgc catccacggg cagcgtcgcc  
900  
ccctgcgtgc cacctctctc cacctctctc ttgtccctct ctgccaccgt ccacgccgca  
960  
gccgcagcag ccaccgcggc tgcacacagc ttccctctgt ccttcgcggg ggcattcccc  
1020  
atgcttcccc caaacgcagc agcagcagtg gccgcggcca cagccatcag cccgcccttg  
1080  
tcagtatcag ccacgtccag tcctcagcag accagcagtg gaacaaacaa taaaccttac  
1140  
cgaccctggg ggacagaagt tggagctttt taaatttttc ttgaacttct tgcaatagta  
1200  
actgaatgtc ctccatttca gagtacgctt aaaacctctg caccctgaag gtagccatac  
1260  
agatgccgac agatccacaa aggaacaata aagctatttg agacacaaac ctcacgagtg  
1320  
gaaatgtggt attctctttt tttctctctc cttttttgtt tggttcaagg cagctcggtg  
1380  
actgacatca gcaacttttg aaaacttcac acttggtacc atttagaagt ttcctggaaa  
1440  
atatatggac cgtaccatcc agcagtgcac cagtatgtct gaattgggga agtaaaatgc  
1500  
cctgactgaa ttctcttgag actagatggg acatacatat atagagagag agtgagagag  
1560  
tcgtgtttcg taagtgcctg agcttaggaa gttttcttct ggatatataa cattgcacaa  
1620  
gggaagacga gtgtggagga taggttaaga aaggaaaggg acagaagtct tgcaataggc  
1680  
tgcagacatt ttaataccat gccagagaag agtattctgc tgaaaccaac aggttttact  
1740  
ggtcaaaatg actgctgaaa ataattttca agttgaaaga tctagtttta tcttagtttg  
1800  
ccttctttgt acagacatgc caagaggatga catttagcag tgcattggta taagcaatta  
1860  
tttcatcagt tctcagatta acaagcattt ctgctctgcc tgcaggcccc caggcacttt  
1920  
ttttttggat ggctcaaaat atggtgcttc tttatataaa ccttacattt atatagtga  
1980  
cctatgagca gttgcctacc atgtgtccac cagaggctat ttaattcatg ccaacttgaa  
2040  
aactctccag tttgtaggag tttggtttaa tttattcagt ttcattagga ctatttttat  
2100  
atatttatcc tcttcatttt ctccaatga tgcaacatct attcttgtca ccctttggga  
2160  
gaagttacat ttctggaggt gatgaagcaa ggaggaggca ctaggaagag aaaagctaca  
2220  
atttttaag ctctttgtca agttagtgat tgcatttgat cccaaaacaa gatgaatgta  
2280  
tgcaatggga tgtacataag ttatttttgc ccatgcctaa actagtgcta tgtaatgggg  
2340

ttgtgggtttt gtttttttcg atttcgttta atgacaaaat aatctcttaa tatgctgaaa  
 2400  
 tcaagcacgt gagagttttt gtttaaaaga taagagacac agcatgtatt atgcacttca  
 2460  
 tttctctact gtgtggagaa agcaataaac attatgagaa tgtaaacgt tatgcaaaat  
 2520  
 tatacttttta aatatttggt ttgaaattac tgtacctagt cttttttgca ttactttgta  
 2580  
 acctttttct atgcaagagt ctttacatac cactaattaa atgaagtcct ttttgactat  
 2640  
 t  
 2641

<210> 3694

<211> 390

<212> PRT

<213> Homo sapiens

<400> 3694

Arg	Pro	Arg	Arg	Arg	Glu	Arg	Ala	Ala	Arg	Ala	Asp	Arg	Ala	Ala	Ala
1				5					10					15	
Gly	Ala	Ala	Pro	Ala	Gln	Ala	Arg	Gly	Gly	Arg	Arg	Arg	Ala	Ser	Gly
			20					25					30		
Cys	Cys	Ala	Pro	Leu	Gly	Val	Arg	Ala	Ser	Gly	Arg	Ala	Val	Pro	Arg
		35					40					45			
Ala	Val	Phe	Ala	Gly	Met	Lys	Arg	Pro	Cys	Glu	Glu	Thr	Thr	Ser	Glu
	50					55					60				
Ser	Asp	Met	Asp	Glu	Thr	Ile	Asp	Val	Gly	Ser	Glu	Asn	Asn	Tyr	Ser
65					70					75				80	
Gly	Gln	Ser	Thr	Ser	Ser	Val	Ile	Arg	Leu	Asn	Ser	Pro	Thr	Thr	Thr
			85						90					95	
Ser	Gln	Ile	Met	Ala	Arg	Lys	Lys	Arg	Arg	Gly	Ile	Ile	Glu	Lys	Arg
			100					105					110		
Arg	Arg	Asp	Arg	Ile	Asn	Asn	Ser	Leu	Ser	Glu	Leu	Arg	Arg	Leu	Val
		115					120				125				
Pro	Thr	Ala	Phe	Glu	Lys	Gln	Gly	Ser	Ala	Lys	Leu	Glu	Lys	Ala	Glu
	130					135					140				
Ile	Leu	Gln	Met	Thr	Val	Asp	His	Leu	Lys	Met	Leu	Gln	Ala	Thr	Gly
145					150					155				160	
Gly	Lys	Gly	Tyr	Phe	Asp	Ala	His	Ala	Leu	Ala	Met	Asp	Phe	Met	Ser
			165					170					175		
Ile	Gly	Phe	Arg	Glu	Cys	Leu	Thr	Glu	Val	Ala	Arg	Tyr	Leu	Ser	Ser
			180					185					190		
Val	Glu	Gly	Leu	Asp	Ser	Ser	Asp	Pro	Leu	Arg	Val	Arg	Leu	Val	Ser
		195					200				205				
His	Leu	Ser	Thr	Cys	Ala	Thr	Gln	Arg	Glu	Ala	Ala	Ala	Met	Thr	Ser
	210					215					220				
Ser	Met	Ala	His	His	Xaa	Ser	Ser	Ala	Pro	Pro	Ala	Ser	Leu	Gly	Arg
225					230					235				240	
Arg	Leu	Pro	Pro	Pro	Ala	Arg	Ser	Pro	Ala	Pro	Ala	Gln	Arg	Pro	Pro
			245						250					255	
Cys	Leu	Arg	Val	Asn	Pro	Leu	Ser	Pro	Leu	His	Asn	Phe	Arg	Ser	Ala
			260					265					270		
Ser	Ala	His	Gly	Ser	Ala	Leu	Leu	Thr	Ala	Thr	Phe	Ala	His	Ala	Asp

275	280	285
Ser Ala Leu Arg Met Pro	Ser Thr Gly Ser Val Ala	Pro Cys Val Pro
290	295	300
Pro Leu Ser Thr Ser Leu	Leu Ser Ala Thr Val His	Ala Ala
305	310	315
Ala Ala Ala Ala Thr	Ala Ala His Ser Phe	Pro Leu Ser Phe Ala
325	330	335
Gly Ala Phe Pro Met Leu	Pro Pro Asn Ala Ala	Ala Val Ala Ala
340	345	350
Ala Thr Ala Ile Ser Pro	Pro Leu Ser Val Ser	Ala Thr Ser Ser Pro
355	360	365
Gln Gln Thr Ser Ser Gly	Thr Asn Asn Lys Pro	Tyr Arg Pro Trp Gly
370	375	380
Thr Glu Val Gly Ala Phe		
385	390	

&lt;210&gt; 3695

&lt;211&gt; 1615

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3695

```

nggaaaagta gcctaaagtc agtataacta aagggtggaa cgaggtggga caaggtccgg
60
aattgctgct cagtgatgtg tgtgtgcctg ccgctggtgg agctgagact gctcatctca
120
gaaggatggg gatgcttgat ttcctggcca ggttgtccca gcacagtggg gattggccct
180
gttgatgac gaagacagca catggtggca gagatagata ctaacccatg gactttccaa
240
gggagggaaat aggtccttgg agggatgca agacaaagg agacactgga taaagaaccc
300
ggtagtgcc aggtattacc ccatctgggc cattactccc acactcagga accagacgtt
360
gtgggtgagg acatgctgtc cctcctgcca agtaataact tccttcccag ccaggatcct
420
gccccaaagta ggaatatagc tctgcattta cagcagctcc tgctcagacc ttgtcaaaac
480
caccctgcag cttaggatta aggagcatgg tcacaggaag gtgggggttc agggcatccc
540
ctcaggaact gccatctcc ccagaattcc aaaatgaagg tccatatgct ttaggtgtg
600
ctggtcatgg tgggcttcac agtaggaaag ggtaagtggg gccaggggc agggaggag
660
gaaggggtaa ctgagtccag gaaggggggtg gagcgtggcc atggataatc gggcttcc
720
ctggcccagg gtatttgaga gtgaccagt gcctccatcc ctcttctgc ctcccagtt
780
cctgttcccg acatccggac gtgccattc tgctcgtag aagacccttc ttaggatgc
840
atttcaggct cagagaagtg taccatcagc agctcatccc tgtgcatggt gatcaccatc
900
tattatgatg tcaaggttcg cttcatcgtt cgaggctgtg gacagtacat ttcctaccgc
960

```

tgccaagaaa aacgcaacac ctactttgca gagtactggt atcaggccca gtgctgtcag  
 1020  
 tacgattatt gcaactcctg gtcaagcccc caactccaga gctctctgcc ggagcccat  
 1080  
 gacaggcccc tggccctgcc tctgtctgac tcccagattc agtgggttcta ccaggccctg  
 1140  
 aacctctccc tgcccctccc caatttccat gctgggacgg agcctgatgg cctggacccc  
 1200  
 atggtcacac tgccctgaa cctgggcttg tcttttgctg agctgcgccg catgtacttg  
 1260  
 ttctcaata gtccaggact tttgggttctt ccccaggctg gactcttgac acctcaccct  
 1320  
 tcctgaattc cacagtgcaa atatctttct gtaacaccct cagcatcctg cactgccttc  
 1380  
 tctgaaaaca cccacattct ttggtcactg tgatttctta ggctccgctc tgttgtagca  
 1440  
 ctagcatcta tatgactttt gtgtaatttt ctctcttgaa ctggggaggc tgagacggga  
 1500  
 gaatcgcttg aaccggggag gcggagggtg cagtgcgccg agatcgcgcc actgcactcc  
 1560  
 agcctgggtg acacagtgcg actccgtctc caaaaaaag gatgaggaat agaat  
 1615

&lt;210&gt; 3696

&lt;211&gt; 146

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3696

Met Val Ile Thr Ile Tyr Tyr Asp Val Lys Val Arg Phe Ile Val Arg  
 1 5 10 15  
 Gly Cys Gly Gln Tyr Ile Ser Tyr Arg Cys Gln Glu Lys Arg Asn Thr  
 20 25 30  
 Tyr Phe Ala Glu Tyr Trp Tyr Gln Ala Gln Cys Cys Gln Tyr Asp Tyr  
 35 40 45  
 Cys Asn Ser Trp Ser Ser Pro Gln Leu Gln Ser Ser Leu Pro Glu Pro  
 50 55 60  
 His Asp Arg Pro Leu Ala Leu Pro Leu Ser Asp Ser Gln Ile Gln Trp  
 65 70 75 80  
 Phe Tyr Gln Ala Leu Asn Leu Ser Leu Pro Leu Pro Asn Phe His Ala  
 85 90 95  
 Gly Thr Glu Pro Asp Gly Leu Asp Pro Met Val Thr Leu Ser Leu Asn  
 100 105 110  
 Leu Gly Leu Ser Phe Ala Glu Leu Arg Arg Met Tyr Leu Phe Leu Asn  
 115 120 125  
 Ser Ser Gly Leu Leu Val Leu Pro Gln Ala Gly Leu Leu Thr Pro His  
 130 135 140  
 Pro Ser  
 145

&lt;210&gt; 3697

&lt;211&gt; 550

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3697

ncggccgccc agttcgacgg gaggtggccc aggcaaatag tgtcatcgat tggcctatgt  
 60  
 cgttatgggtg ggaggattga ctgctgctgg ggctgggctc gccagtcttg gggacagtgt  
 120  
 cagcctgtgt gcccaaccacg atgcaaacat ggtgagtgtg tcggggccaaa caagtgcaag  
 180  
 tgtcatcctg gttatgctgg aaaaacctgt aatcaagatc taaatgagtg tggcctgaag  
 240  
 ccccgccct gtaagcacag gtgcatgaac acttacggca gctacaagtg ctactgtctc  
 300  
 aacggatata tgctcatgcc ggatgggttc tgctcaagtg ccctgacctg ctccatggca  
 360  
 aactgtcagt atggctgtga tgttgtaaa ggacaaatac ggtgccagtg cccatcccct  
 420  
 ggctgcagc tggctcctga tgggaggacc tgtgtagatg ttgatgaatg tgctacagga  
 480  
 agagcctcct gccctaaatt taggcaatgt gtcaacactt ttgggagcta catctgcaag  
 540  
 tgtcataaag  
 550

&lt;210&gt; 3698

&lt;211&gt; 183

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3698

Xaa	Ala	Ala	Glu	Phe	Asp	Gly	Arg	Trp	Pro	Arg	Gln	Ile	Val	Ser	Ser
1			5					10						15	
Ile	Gly	Leu	Cys	Arg	Tyr	Gly	Gly	Arg	Ile	Asp	Cys	Cys	Trp	Gly	Trp
		20						25					30		
Ala	Arg	Gln	Ser	Trp	Gly	Gln	Cys	Gln	Pro	Val	Cys	Gln	Pro	Arg	Cys
		35					40					45			
Lys	His	Gly	Glu	Cys	Ile	Gly	Pro	Asn	Lys	Cys	Lys	Cys	His	Pro	Gly
	50					55					60				
Tyr	Ala	Gly	Lys	Thr	Cys	Asn	Gln	Asp	Leu	Asn	Glu	Cys	Gly	Leu	Lys
65					70					75				80	
Pro	Arg	Pro	Cys	Lys	His	Arg	Cys	Met	Asn	Thr	Tyr	Gly	Ser	Tyr	Lys
			85						90					95	
Cys	Tyr	Cys	Leu	Asn	Gly	Tyr	Met	Leu	Met	Pro	Asp	Gly	Ser	Cys	Ser
			100					105					110		
Ser	Ala	Leu	Thr	Cys	Ser	Met	Ala	Asn	Cys	Gln	Tyr	Gly	Cys	Asp	Val
		115					120					125			
Val	Lys	Gly	Gln	Ile	Arg	Cys	Gln	Cys	Pro	Ser	Pro	Gly	Leu	Gln	Leu
	130					135					140				
Ala	Pro	Asp	Gly	Arg	Thr	Cys	Val	Asp	Val	Asp	Glu	Cys	Ala	Thr	Gly
145					150					155				160	
Arg	Ala	Ser	Cys	Pro	Lys	Phe	Arg	Gln	Cys	Val	Asn	Thr	Phe	Gly	Ser
			165					170						175	
Tyr	Ile	Cys	Lys	Cys	His	Lys									
			180												

<210> 3699  
 <211> 510  
 <212> DNA  
 <213> Homo sapiens

<400> 3699  
 naggagagag attgagaact atgagagaca gcagctaaga gacaaaggag gcgggagact  
 60  
 gcctaggtgc cgcagcaccc acaccgtcct cttgcccccc cgccactggg accccagagc  
 120  
 tggcccttga tggaggggag ccgacctcgc agcagcctga gcctggccag cagcgctcc  
 180  
 accatctcct cgctcagcag cctgagcccc aagaagccca cccgggcagt aaacaaggtc  
 240  
 cagcctttg ggaagagagg caatgcgctc aggagggatc ccaaccttcc cgtgcacatc  
 300  
 cgaggctggc ttcataagca ggacagctcg gggctccgtc tctggaaacg ccgctgggtc  
 360  
 gtcctctcgc gccattgcct cttttattac aaggacagcc gcgaggagag tgtcctaggc  
 420  
 agcgtcctgc tccccagcta caatattaga ccagatgggc cgggagcccc ccgagggcgg  
 480  
 cgcttcacct tcaccgcaga gcacccgggt  
 510

<210> 3700  
 <211> 127  
 <212> PRT  
 <213> Homo sapiens

<400> 3700  
 Met Glu Gly Ser Arg Pro Arg Ser Ser Leu Ser Leu Ala Ser Ser Ala  
 1 5 10 15  
 Ser Thr Ile Ser Ser Leu Ser Ser Leu Ser Pro Lys Lys Pro Thr Arg  
 20 25 30  
 Ala Val Asn Lys Val His Ala Phe Gly Lys Arg Gly Asn Ala Leu Arg  
 35 40 45  
 Arg Asp Pro Asn Leu Pro Val His Ile Arg Gly Trp Leu His Lys Gln  
 50 55 60  
 Asp Ser Ser Gly Leu Arg Leu Trp Lys Arg Arg Trp Phe Val Leu Ser  
 65 70 75 80  
 Gly His Cys Leu Phe Tyr Tyr Lys Asp Ser Arg Glu Glu Ser Val Leu  
 85 90 95  
 Gly Ser Val Leu Leu Pro Ser Tyr Asn Ile Arg Pro Asp Gly Pro Gly  
 100 105 110  
 Ala Pro Arg Gly Arg Arg Phe Thr Phe Thr Ala Glu His Pro Gly  
 115 120 125

<210> 3701  
 <211> 733  
 <212> DNA  
 <213> Homo sapiens

<400> 3701



ntgaattttc aaattacatt ctaggtttgc agcctctgga gcgtccagcg tcacattatt  
 60  
 attcactcag gagaaaaacc acacttgtgt gacatctgtg gtcgagggtt tagtaacttc  
 120  
 agtaatttga aggagcacia aaagacacac acggctgata aagtcttcac ctgtgatgag  
 180  
 tgtggaaagt cttttaatat gcaaaggaag ttagtaaagc acagaattcg gcacacgggg  
 240  
 gagcggcctt acagctgctc tgcctgcggg aaatgttttg ggggatcagg tgacctccgc  
 300  
 aggcattgtcc gcactcacac tggggagaag ccgtacacat gtgagatctg taacaagtgc  
 360  
 tttacctgct ctgcggtgct ccggcggcac aagaagatgc actgcaaagc tggtgacgag  
 420  
 agcccagatg tgctggagga gctcagcaa gccatcgaga cctccgacct cgagaaatct  
 480  
 cagagctcag actctttctc ccaagacagc tctgtgacgc tgatgccagt gtcggttaaa  
 540  
 ctccctgtcc acccagtgga aaattctgtg gcagaatttg atagccactc tggcggctcc  
 600  
 tattgtaagt tacgggccat gatccaacct catggagtta gtgaccagga gaagctgagt  
 660  
 ttggatcctg gtaaacttgc caagccccag attcatcata cacagcctca tgcctattct  
 720  
 tactctgatt ttg  
 733

&lt;210&gt; 3702

&lt;211&gt; 236

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3702

Val Cys Ser Leu Trp Ser Val Gln Arg His Ile Ile Ile His Ser Gly  
 1 5 10 15  
 Glu Lys Pro His Leu Cys Asp Ile Cys Gly Arg Gly Phe Ser Asn Phe  
 20 25 30  
 Ser Asn Leu Lys Glu His Lys Lys Thr His Thr Ala Asp Lys Val Phe  
 35 40 45  
 Thr Cys Asp Glu Cys Gly Lys Ser Phe Asn Met Gln Arg Lys Leu Val  
 50 55 60  
 Lys His Arg Ile Arg His Thr Gly Glu Arg Pro Tyr Ser Cys Ser Ala  
 65 70 75 80  
 Cys Gly Lys Cys Phe Gly Gly Ser Gly Asp Leu Arg Arg His Val Arg  
 85 90 95  
 Thr His Thr Gly Glu Lys Pro Tyr Thr Cys Glu Ile Cys Asn Lys Cys  
 100 105 110  
 Phe Thr Arg Ser Ala Val Leu Arg Arg His Lys Lys Met His Cys Lys  
 115 120 125  
 Ala Gly Asp Glu Ser Pro Asp Val Leu Glu Glu Leu Ser Gln Ala Ile  
 130 135 140  
 Glu Thr Ser Asp Leu Glu Lys Ser Gln Ser Ser Asp Ser Phe Ser Gln  
 145 150 155 160  
 Asp Thr Ser Val Thr Leu Met Pro Val Ser Val Lys Leu Pro Val His

```

<400> 3703
nnccggccgcc gcgtccggct gctggaccga acttctgccg tgcggacagc aggagcagcg
60
ccgagcccca tccccacc tctccagctc gccctctgag cctcccagc cctctctcca
120
tttcccacaa ttgtgctgca catggtgatg agtttccggg tgtctgagct ccagggtgctt
180
cttggttttg ctggccggaa caagagtgga cggaagcacg agctcctggc caaggctctg
240
cacctcctga agtccagctg tgcccctagt gtccagatga agatcaaaga gctttaccga
300
cgacgctttc cccggaagac cctggggccc tctgatctct cccttctctc tttgcccct
360
ggcacctctc ctgtaggctc ccctggtcct cttagctcca tcccccaac gctgttggcc
420
cctggcaccc tgctggggcc caagcgtgag gtggacatgc acccccctct gcccagcct
480
gtgcaccctg atgtcaccat gaaaccattg cccttctatg aagtctatgg ggagctcatc
540
cggcccacca cccttgcatc cacttctagc cagcggtttg aggaagcgca ctttaccttt
600
gccctcacac cccagcaagt gcagcagatt cttacatcca gagaggttct gccaggagcc
660
aaatgtgatt ataccataca ggtgcagcta aggttctgtc tctgtgagac cagctgcccc
720
caggaagatt attttcccc caacctcttt gtcaagggtca atggggaaact gtgccccctg
780
ccggggttacc tcccccaac caagaatggg gccgagccca agaggcccag ccgccccatc
840
aacatcacac ccctggctcg actctcagcc actgttccca acaccattgt ggtcaattgg
900
tcctctgagt tcggacggaa ttactccttg tctgtgtacc tgggtgaggca gttgactgca
960
ggaacccttc taaaaaact cagagcaaag ggtatccgga acccagacca ctcgcgggga
1020
ctgatcaagg agaaattgac tgctgaccct gacagtgagg tggccactac aagtctccgg
1080
gtgtactca tgtgcccgt agggaagatg cgctgactg tcccttgctg tgcctcacc
1140

```

tgcgccacc tgcagagctt cgatgctgcc ctttatctac agatgaatga gaagaagcct  
1200  
acatggacat gtccctgtgtg tgacaagaag gctccctatg aatctcttat cattgatggt  
1260  
ttatttatgg agattcttag ttccctgttca gattgtgatg agatccaatt catggaagat  
1320  
ggatcctggt gcccaatgaa acccaagaag gaggcacctg aggtttgccc ccgcgcaggg  
1380  
tatgggctgg atggcctcca gtacagccca gtccaggggg gagatccatc agagaataag  
1440  
aagaaggtcg aagttattga cttgacaata gaaagctcat cagatgagga ggatctgccc  
1500  
cctaccaaga agcactgttc tgtcacctca gctgccatcc cggccctacc tggaagcaaa  
1560  
ggagtcctga catctggcca ccagccatcc tcgggtgctaa ggagccctgc tatgggcacg  
1620  
ttgggtgggg atttccctgtc cagtctccca ctacatgagt acccacctgc cttccactg  
1680  
ggagccgaca tccaaggttt agatttattt tcatttcttc agacagagag tcagcactat  
1740  
ggccccctctg tcatcacctc actagatgaa caggatgccc ttggccactt cttccagtac  
1800  
cgagggaccc cttctcactt tctgggcccc ctggccccca cgctggggag ctcccactgc  
1860  
agcgccactc cggcgccccc tccctggcgt gtcagcagca ttgtggcccc tggggggggc  
1920  
ttgagggagg ggcattggagg acccctgccc tcagggtccct ctttgactgg ctgtcggta  
1980  
gacatcattt ccctggactg agttccctgg attatggaaa ctctcgtgtc cccaacact  
2040  
gagcaagtat gctgtggagt cccaacccca gctactctga tccctctggg ggcctctggc  
2100  
aaggggcaga cagaccttca cagatgccta cttttggcct catctctgcc tgacaaggcc  
2160  
agcacccaaa gggttaatat ttaacctctt ttaaggaca ctgggggtctg tttctggaaa  
2220  
tgttctttag atggtggcac attcctttgg gtatgttaac ctaggcagtg ggaggcaaat  
2280  
gggatggtat gtgagctagg agaagggtctg aaccctcagc cttgactatg tctagagcct  
2340  
cttggggaag gggcacctct cttgaacccc aaatgctctc tcttcttatt acccaaacc  
2400  
atggctctat ttcttcttca catccattgt ctcttcatgt ctattccatt cccttcggcc  
2460  
aaacagacag gtgaaaaaac tgagacaggc agtttcagag atggacagag aactttattt  
2520  
tggtattgtg atgtggactt tttgtacat aaataagaaa aaccaaata ctccaagat  
2580  
gacttccctt gcctcctact ccagtatgac agaggaggat gtaaggcctt agccatgatc  
2640  
tgcaggggtc tgggagtcag gcccggccta ttgcttgggt ctctctctat ttatatatct  
2700  
aagttcacag tgtttcttat tccccctaa gcttctagag gctcatggcc ctgtagttag  
2760

gcctggctca ttctgcacct ttccagggag gtggaaggac cctgtgccct ccttcccaat  
 2820  
 cttctttttc aggctcgcca aggcttagga cctatgttgt aattttactt tttatttcta  
 2880  
 aagttgtagt gaagctctca cccataataa aggttgtgaa tgttctgtga gtgtcatgga  
 2940  
 gatgggctag ggaggggatt ttacacttca ctttccagac ccctgggttg ggggaagagg  
 3000  
 gtccatgttc cattcttctt ttgctggccc tgggtccagg taagctgcac ttttacacgg  
 3060  
 tgggggtgtt ctgcccagat gttgcagcca gagcttgagg gcaaacttgg ttccagtgtt  
 3120  
 gactctctct ttgtcctctg ccatgggttg gatcatccgc aggaggggtg acatgtgcag  
 3180  
 gaccagaggt cgggctcttc catctcctc tagttccact gcaaggacag agggtggttag  
 3240  
 gtcttggggg agaagtccgg gtgtctctgt cccatcctct gcggcagcca ctgc  
 3294

<210> 3704

<211> 619

<212> PRT

<213> Homo sapiens

<400> 3704

Met	Val	Met	Ser	Phe	Arg	Val	Ser	Glu	Leu	Gln	Val	Leu	Leu	Gly	Phe
1				5				10						15	
Ala	Gly	Arg	Asn	Lys	Ser	Gly	Arg	Lys	His	Glu	Leu	Leu	Ala	Lys	Ala
			20					25					30		
Leu	His	Leu	Leu	Lys	Ser	Ser	Cys	Ala	Pro	Ser	Val	Gln	Met	Lys	Ile
	35						40					45			
Lys	Glu	Leu	Tyr	Arg	Arg	Arg	Phe	Pro	Arg	Lys	Thr	Leu	Gly	Pro	Ser
	50					55					60				
Asp	Leu	Ser	Leu	Leu	Ser	Leu	Pro	Pro	Gly	Thr	Ser	Pro	Val	Gly	Ser
65					70					75				80	
Pro	Gly	Pro	Leu	Ala	Pro	Ile	Pro	Pro	Thr	Leu	Leu	Ala	Pro	Gly	Thr
				85					90					95	
Leu	Leu	Gly	Pro	Lys	Arg	Glu	Val	Asp	Met	His	Pro	Pro	Leu	Pro	Gln
			100					105					110		
Pro	Val	His	Pro	Asp	Val	Thr	Met	Lys	Pro	Leu	Pro	Phe	Tyr	Glu	Val
	115						120					125			
Tyr	Gly	Glu	Leu	Ile	Arg	Pro	Thr	Thr	Leu	Ala	Ser	Thr	Ser	Ser	Gln
	130					135					140				
Arg	Phe	Glu	Glu	Ala	His	Phe	Thr	Phe	Ala	Leu	Thr	Pro	Gln	Gln	Val
145					150					155				160	
Gln	Gln	Ile	Leu	Thr	Ser	Arg	Glu	Val	Leu	Pro	Gly	Ala	Lys	Cys	Asp
				165					170					175	
Tyr	Thr	Ile	Gln	Val	Gln	Leu	Arg	Phe	Cys	Leu	Cys	Glu	Thr	Ser	Cys
			180					185					190		
Pro	Gln	Glu	Asp	Tyr	Phe	Pro	Pro	Asn	Leu	Phe	Val	Lys	Val	Asn	Gly
	195						200					205			
Lys	Leu	Cys	Pro	Leu	Pro	Gly	Tyr	Leu	Pro	Pro	Thr	Lys	Asn	Gly	Ala
	210					215					220				
Glu	Pro	Lys	Arg	Pro	Ser	Arg	Pro	Ile	Asn	Ile	Thr	Pro	Leu	Ala	Arg

```

225          230          235          240
Leu Ser Ala Thr Val Pro Asn Thr Ile Val Val Asn Trp Ser Ser Glu
          245          250          255
Phe Gly Arg Asn Tyr Ser Leu Ser Val Tyr Leu Val Arg Gln Leu Thr
          260          265          270
Ala Gly Thr Leu Leu Gln Lys Leu Arg Ala Lys Gly Ile Arg Asn Pro
          275          280          285
Asp His Ser Arg Ala Leu Ile Lys Glu Lys Leu Thr Ala Asp Pro Asp
          290          295          300
Ser Glu Val Ala Thr Thr Ser Leu Arg Val Ser Leu Met Cys Pro Leu
          305          310          315          320
Gly Lys Met Arg Leu Thr Val Pro Cys Arg Ala Leu Thr Cys Ala His
          325          330          335
Leu Gln Ser Phe Asp Ala Ala Leu Tyr Leu Gln Met Asn Glu Lys Lys
          340          345          350
Pro Thr Trp Thr Cys Pro Val Cys Asp Lys Lys Ala Pro Tyr Glu Ser
          355          360          365
Leu Ile Ile Asp Gly Leu Phe Met Glu Ile Leu Ser Ser Cys Ser Asp
          370          375          380
Cys Asp Glu Ile Gln Phe Met Glu Asp Gly Ser Trp Cys Pro Met Lys
          385          390          395          400
Pro Lys Lys Glu Ala Ser Glu Val Cys Pro Pro Pro Gly Tyr Gly Leu
          405          410          415
Asp Gly Leu Gln Tyr Ser Pro Val Gln Gly Gly Asp Pro Ser Glu Asn
          420          425          430
Lys Lys Lys Val Glu Val Ile Asp Leu Thr Ile Glu Ser Ser Ser Asp
          435          440          445
Glu Glu Asp Leu Pro Pro Thr Lys Lys His Cys Ser Val Thr Ser Ala
          450          455          460
Ala Ile Pro Ala Leu Pro Gly Ser Lys Gly Val Leu Thr Ser Gly His
          465          470          475          480
Gln Pro Ser Ser Val Leu Arg Ser Pro Ala Met Gly Thr Leu Gly Gly
          485          490          495
Asp Phe Leu Ser Ser Leu Pro Leu His Glu Tyr Pro Pro Ala Phe Pro
          500          505          510
Leu Gly Ala Asp Ile Gln Gly Leu Asp Leu Phe Ser Phe Leu Gln Thr
          515          520          525
Glu Ser Gln His Tyr Gly Pro Ser Val Ile Thr Ser Leu Asp Glu Gln
          530          535          540
Asp Ala Leu Gly His Phe Phe Gln Tyr Arg Gly Thr Pro Ser His Phe
          545          550          555          560
Leu Gly Pro Leu Ala Pro Thr Leu Gly Ser Ser His Cys Ser Ala Thr
          565          570          575
Pro Ala Pro Pro Pro Gly Arg Val Ser Ser Ile Val Ala Pro Gly Gly
          580          585          590
Ala Leu Arg Glu Gly His Gly Gly Pro Leu Pro Ser Gly Pro Ser Leu
          595          600          605
Thr Gly Cys Arg Ser Asp Ile Ile Ser Leu Asp
          610          615

```

&lt;210&gt; 3705

&lt;211&gt; 1737

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3705

ttttggaggg aaaggatgca ctttcatgtt taacaaaata aattaaatat acggggcttc  
60  
agctcaaact ctacataaaa ttacagagat ctggggccac cagcacagtg ggggtggggg  
120  
tggtgtctgg cctggacggg gtgtggtcat cagcatggct gaaagaccag gcgggtccc  
180  
ggccccagga gagaccacag tccctgcaac ccagtcttcc ttccatcatt attaatatta  
240  
tcttcatttc ttaaatataa ataccaaggc cccttctctg tgtcaggggg agaatgcagt  
300  
ggggatgagc cactagccat gggctccagc ctctcaggct tggggctgct gtgccccaa  
360  
ccccagcca cagcagtagg ggactcctgg gcaccaagg cagggtggaa aaatagccgc  
420  
caaggccagg ggacagaggc ggggatggag gcggggactg aggcggggac agaggcgggc  
480  
agagttgggg gagtgacggt ggagcagga aagtcctca tcaactatga gcctcacggc  
540  
acacgtactg caggcttcac ggcacaccct cccaaaagca cgtcagtctg cgtgtgtnc  
600  
aggcagcata tctgcacctg tgtgtgcatg tgtgtccgga agtgtgtgcc caggcagcat  
660  
atctgcatgt gtgcgtgctg tgttatccgg acagcaatct gcacgtgtgt gcatgtccag  
720  
acagcatatc tgtgcacatg tgtgtgtcca ggcaatatct gcacgtgtgt gagtgttgag  
780  
gcagcattat ctgtgtgtgt gtccaggagc atatctgcgt gcgtgtgtgt gtccnggaca  
840  
gcatatctgt gcatgcgtgt gtgtgtccgg acagcagtct gcgtgtgtgt gtgactagac  
900  
agcatatctg cgtgtgtcca ggcagcatat ctgcgcctgt gcacgtgtgt ctggaagtgt  
960  
gtgtccggca gcatatctgc atgtgtgtgc gtgtccnaga cagcatatct gtgcacgcgt  
1020  
gtgtgtgtgt gtgtccaggc anatatccgt gcatgtgtgt gtcaaggcag cattatctgt  
1080  
gtgtccagga gcatatctgt gcacgtgtgt gtccggatac atatctgcac gtgtgtggtc  
1140  
cagacagcat atccgtgtgt gtgtgtgtgt nccaggcagc acatctgcgc atgggtgtgc  
1200  
gtgnntgtat gttcaggcag catgtccttg tatgttctgg catgtctctg tgcgtgtgctg  
1260  
tgcatttggg cagcttatct gtgtgccag gcggcatatc tgtgcatgtg cgtgtgtgctg  
1320  
tacgtgtgcc ttncaggag caggtgtgct gcgcatgtgtg tgcatacatg catccaggta  
1380  
tgtgtgtgtc tgtgtgtgtg tgtccagggg ctatgcctca cacacagact gcctgggggtg  
1440  
ctggccattc ctctcgcca tgggtccctt gccttcgtct gcagctccgt cctccatcct  
1500  
cccagtctgc ctgtctggcc gggccccccg tgcccactgc agatacgggtg ccgtctagca  
1560

ctgatagtgg atgtgctggg ggaccttgcc ctccacgtgt gagtgtgtgt gagagtgtgt  
 1620  
 gtgtgtgtgt gtgtgtggat gtctgtgttag agtttggggg acaacttagg gccagcaact  
 1680  
 gggcctgggc ccaataagtg ctgggggggc tgccggagac ccatgtctct cacacag  
 1737

<210> 3706  
 <211> 191  
 <212> PRT  
 <213> Homo sapiens

<400> 3706  
 Met Gly Ser Ser Leu Ser Gly Leu Gly Leu Leu Cys Pro Gln Pro Gln  
 1 5 10 15  
 Pro Thr Ala Val Gly Asp Ser Trp Ala Pro Lys Ala Gly Gly Lys Asn  
 20 25 30  
 Ser Arg Gln Gly Gln Gly Thr Glu Ala Gly Met Glu Ala Gly Thr Glu  
 35 40 45  
 Ala Gly Thr Glu Ala Gly Arg Val Gly Gly Val Thr Val Glu Gln Gly  
 50 55 60  
 Lys Ser Leu Ile Asn Tyr Glu Pro His Gly Thr Arg Thr Ala Gly Phe  
 65 70 75 80  
 Thr Ala His Pro Pro Lys Ser Thr Ser Val Cys Val Cys Xaa Arg Gln  
 85 90 95  
 His Ile Cys Thr Cys Val Cys Met Cys Val Arg Lys Cys Val Pro Arg  
 100 105 110  
 Gln His Ile Cys Met Cys Ala Cys Val Cys Ile Arg Thr Ala Ile Cys  
 115 120 125  
 Thr Cys Val His Val Gln Thr Ala Tyr Leu Cys Thr Cys Val Cys Pro  
 130 135 140  
 Gly Asn Ile Cys Thr Cys Val Ser Val Glu Ala Ala Leu Ser Val Cys  
 145 150 155 160  
 Val Ser Arg Ser Ile Ser Ala Cys Val Cys Val Ser Xaa Thr Ala Tyr  
 165 170 175  
 Leu Cys Met Arg Val Cys Val Arg Thr Ala Val Cys Val Cys Val  
 180 185 190

<210> 3707  
 <211> 585  
 <212> DNA  
 <213> Homo sapiens

<400> 3707  
 ntctgccaag ggatgatatc tatgtgtcag atgttgagga cgacgggtgat gacacatctc  
 60  
 tggatagtga cctggatcca gaggagctgg caggagtcag gggacatcag ggtctaaggg  
 120  
 accaaaagcg tatgcgactt actgaagtgc aagatgataa agaggaggta ggatttcacc  
 180  
 tggcttcaac atgtgctagc tatcaatgtg atacattata tacaacaaaa ggaaagaaca  
 240  
 aaaatatggg gcatttcatt ggatgctgaa aatgcatttg ataacattca acttccttac  
 300

atgataaaaa ccctcaagaa actgggtata gaaggaatgt atctcaacgt aataaaagcc  
 360  
 gtatatgaca gaccancagt tagtatcatc ctgaatgggg aaaatctaca agaactacaa  
 420  
 acctttgggt taagatctgg aacacaacaa ggctgcccgc tttcaccaca gttactgaac  
 480  
 atagtactat aagtcctagc taggcgaatc agaggagaaa taaggggcat gcaaattggg  
 540  
 aaggaagaag tcaaattgtc cttatttaca gatgataaga tctta  
 585

<210> 3708

<211> 106

<212> PRT

<213> Homo sapiens

<400> 3708

Asp	Phe	Thr	Trp	Leu	Gln	His	Val	Leu	Ala	Ile	Asn	Val	Ile	His	Tyr
1				5				10					15		
Ile	Gln	Gln	Lys	Glu	Arg	Thr	Lys	Ile	Trp	Gly	Ile	Ser	Leu	Asp	Ala
			20					25					30		
Glu	Asn	Ala	Phe	Asp	Asn	Ile	Gln	Leu	Pro	Tyr	Met	Ile	Lys	Thr	Leu
			35				40					45			
Lys	Lys	Leu	Gly	Ile	Glu	Gly	Met	Tyr	Leu	Asn	Val	Ile	Lys	Ala	Val
			50				55					60			
Tyr	Asp	Arg	Pro	Xaa	Val	Ser	Ile	Ile	Leu	Asn	Gly	Glu	Asn	Leu	Gln
65					70					75				80	
Glu	Leu	Gln	Thr	Phe	Gly	Leu	Arg	Ser	Gly	Thr	Gln	Gln	Gly	Cys	Pro
				85					90					95	
Leu	Ser	Pro	Gln	Leu	Leu	Asn	Ile	Val	Leu						
			100					105							

<210> 3709

<211> 3768

<212> DNA

<213> Homo sapiens

<400> 3709

nnaccgggtcc cctaccccc tcccgcttg cgcgccggc ccgcctgac ccacggccgc  
 60  
 ctccggagcc cgacgcgggc atatacttct cttgtcttgg ttggatgcac aaatctgtgt  
 120  
 gcagtgttt ttgccgttg cctagacgat cacttggttt ctctgaggat gtctggttct  
 180  
 cgtaaagagt ttgatgtgaa acagattttg aaaatcagat ggaggtggtt tggatcatcaa  
 240  
 gcatcatctc ctaattctac agttgacagc cagcagggag aattttggaa ccgaggacag  
 300  
 actggagcaa acggtggggag aaagttttta gatccatgta gcctacaatt gcctttggct  
 360  
 tcaattgggt accgaaggtc cagccaactg gattttcaga attcaccttc ttggccaatg  
 420  
 gcaccacct ctgaagtccc tgcatttgag ttacagcag aagattgtgg cggtgcacat  
 480



tggctggata gaccagaagt ggatgatggc actagtgaag aagaaaatga atctgattcc  
540  
agttcatgca ggacttccaa tagtagtcag acattatcat cctgtcatac tatggagcca  
600  
tgtacatcag atgaattttt ccaagccctt aatcatgccg agcaaacatt taaaaaatg  
660  
gaaaactatt tgagacataa acagttgtgt gatgtaattt tagtcgctgg tgatcgcaga  
720  
attccagctc acagattggg gctctcctct gtctcagact attttgctgc catgtttact  
780  
aatgatgtca gagaagcaag ataagaagac ataaaaatgg aagggtgtaga accaaattca  
840  
tcgtggctct tgatccaata tgcttataca ggccgccttg aattaaaaga agataatatt  
900  
gagtgcctgt tatctacagc ttgccttctt cagctttcac aggctgtaga agcatgttgt  
960  
aagtttttaa tgaaacagct tcatccatcc cacgtcttgg gaattctttc ttttgctgat  
1020  
gcccaggtt gtacagattt gcataaagtg gctcacaatt atactatgga gcatttcattg  
1080  
gaagtaatca gaaaccagga atttgtatta ttaccagcca gcgaaattgc aaagctcttg  
1140  
gctagtgatg acatgaacat tcctaagag gagacaatat tgaatgcact tcttacttgg  
1200  
gtccgtcatg atttggaaca gagacggaaa gatctaagta aacttttggc ttatattagg  
1260  
ctacctcttc ttgcaccaca gttcctggca gacatggaaa ataatgtact ttttcgggat  
1320  
gatatagaat gtcagaaact cattatggaa gcaatgaagt accatttatt accagagaga  
1380  
cgacccatgt tacaaagtcc tcggacaaaa cctaggaagt caactgttgg tacattattt  
1440  
gcagttgggg gaatggattc aacaaaagga gcaacaagca ttgaaaagta tgatctccgt  
1500  
acaaatatgt ggactccagt agcaaatatg aatgggagga ggctacagtt cgggtgttga  
1560  
gtgctagatg acaaactgta tgtggttggg ggaagagatg gactgaagac tttgaatact  
1620  
gtagagtgtc acaaccccaa acaaaaaact tggagtgtga tgccacctat gtccacacat  
1680  
agacatggcc ttggtgtggc tgtactggaa ggtcccatgt atgccgtagg aggacatgat  
1740  
ggctggagct atctgaacac agtggaaaga tgggaccctc aggctcgcca gtggaatttt  
1800  
gttgccacta tgtctacccc taggagtaca gtaggtgtgg cagtactaag tggaaaactt  
1860  
tatgcagttg gtggctgtga tggagttct tgtctcaa atcagtagaatg ttttgatcct  
1920  
catactaata agtggacact gtgtgcacag atgtcaaaaa ggagaggtgg cgtaggagtg  
1980  
acgacctgga atggactgct gtatgctata ggggggcacg atgctcccgc atccaacttg  
2040  
acttccagac tctcagactg tgtggaaaga tatgatccca aacagacat gtggactgca  
2100

gtagcatcca tgagcatcag cagagatgca gtgggggtct gtttacttgg tgataagtta  
2160  
tatgctgttg ggggggtatga tggacaggca taccttaata ccgtggaggc ttatgatccc  
2220  
cagacaaatg agtggaccca ggtattttca catacttttg aggacagcaa agatcacctg  
2280  
gtggccatca agcagaccat ctggaggcaa aactccttat ctgaggaatt cagaagtcac  
2340  
tagactgccc tattatctaa agccggcatc ttgtactagg cttctttacc aaaaatgtat  
2400  
ttaataaaaac atttccaacc tgtgaaaaaa aaaaaaaaaa attttttttt ttttgcttca  
2460  
aagagctttt ctcagagcag ggatttattt tcattacatg caacatggac aaacactggt  
2520  
ctggttttca tgacaatttg aattcaaagt aatatgtttt tctaaaattc agtgtattta  
2580  
tttggccata tggatgctcc ttgtgttctt ggtcacatat taaagaaact ggcactttgg  
2640  
ctgcaagaac aaataaaaaa taccataaat ccaactggtc tttgatttgg gtctaggtta  
2700  
ataactaaag aaccattcag caataatggc ttgaaacatt tatatctct atgaaaccgc  
2760  
aattagttaa gaggctgctg attctaataa ctatgacacc agcaagggag tgaggggaga  
2820  
aatgttaact ctggatgcca aattcagagc aaagtatcta ttatctcct ctcacttttg  
2880  
cagtatctat aaataaagtg gtggggggag aattatatga ataagttaa ataaaagtgc  
2940  
atacagaact gagaaatatt ttcattggaat ttgccactta gttcttaaaa ttcttataag  
3000  
gaaaataacc atttacaaca aaagactagt tacactgttg ctgttttagaa catgagagca  
3060  
aaatgagtaa caatcaaatt ctctggttta aacttaatta tcttaaaaca tgttattctg  
3120  
taagttgaca tctatgcctt gaaaattcaa ggcagaaagt aaaatcattt agaaagccag  
3180  
aaattccatc aatacatcta gacagatgtt tgctttagt ttttggtatc caaaccttt  
3240  
tttccacaca tcgcacagat gccttttttg taggcacagc cctggcagta atgagaacct  
3300  
ggttggtgca cagaactttt acaaattcta caagtggaga acttattctt tccatatgga  
3360  
tcaaactctg ctttttttga agtcaaagct ttattttcat tcagctttct tccaccatt  
3420  
tctgtggtat tcctagcacc atctttccat gtatctggag tgataacagt accaagtttc  
3480  
ttttcacatt ttctgcacac catccttccc cagcacacct tttcttccc gatctgaacc  
3540  
cctgttgact aatcttgctt gggtttgtgt aggtctgcag gaaggaaggc tgaaaaagcg  
3600  
gacgaagatt ttgacttaag tgggactttg tgatttaatt ttttcttttt ttttaagtgg  
3660  
gaggaagggg aagctagatg gactaggaga gacttgattt tgggtgctaaa gttccccagt  
3720

tcatatgtga catcttttta aaaaaaaaaa aaaaaaaaaa aaaaaaaaa  
3768

<210> 3710

<211> 70

<212> PRT

<213> Homo sapiens

<400> 3710

Met	Glu	Pro	Cys	Thr	Ser	Asp	Glu	Phe	Phe	Gln	Ala	Leu	Asn	His	Ala
1				5				10					15		
Glu	Gln	Thr	Phe	Lys	Lys	Met	Glu	Asn	Tyr	Leu	Arg	His	Lys	Gln	Leu
		20					25					30			
Cys	Asp	Val	Ile	Leu	Val	Ala	Gly	Asp	Arg	Arg	Ile	Pro	Ala	His	Arg
	35					40					45				
Leu	Val	Leu	Ser	Ser	Val	Ser	Asp	Tyr	Phe	Ala	Ala	Met	Phe	Thr	Asn
	50				55						60				
Asp	Val	Arg	Glu	Ala	Arg										
65					70										

<210> 3711

<211> 1366

<212> DNA

<213> Homo sapiens

<400> 3711

nctcactttt ctgacacgca ggcgatcggc cttgtggaga accagagtga ctggtacctg  
60  
ggcaacctct ggaagaacca caggccctgg cctgccttgg gccggggatt taacacaggt  
120  
gtgatcctgc tgcggctgga ccggctccgg caggctggct gggagcagat gtggaggctg  
180  
acagccaggc gggagctcct tagcctgcct gccgcctcac tggctgacca ggacatcttc  
240  
aacgctgtga tcaaggagca cccggggcta gtgcagcgtc tgccttgtgt ctggaatgtg  
300  
cagctgtcag atcacacact ggccgagcgc tgctactctg aggcgtctga cctcaagggtg  
360  
atccactgga actcacaaa gaagcttcgg gtgaagaaca agcatgtgga attcttccgc  
420  
aatttctacc tgaccttctt ggagtacgat gggaacctgc tgcggagaga gctctttgtg  
480  
tgccccagcc agccccacc tgggtgctgag cagttgcagc aggccttggc acaactggac  
540  
gaggaagacc cctgctttga gttccggcag cagcagctca ctgtgcaccg tgtgcatgtc  
600  
actttcctgc cccatgaacc gccaccccc cggcctcacg atgtcaccct tgtggccag  
660  
ctgtccatgg accggctgca gatgttgga gccctgtgca ggcactggcc tggccccatg  
720  
agcctggcct tgtacctgac agacgcggaa gctcagcagt tcctgcattt cgtcgaggcc  
780  
tcaccagtgc ttgctgcccg gcaggacgtg gcctaccatg tgggtgtaccg tgaggggccc  
840

ctataccccc tcaaccagct tcgcaacgtg gccttgcccc aggcctcac gccttacgtc  
 900  
 ttctcagtg acattgactt cctgcctgcc tattctctct acgactacct cagggcctcc  
 960  
 attgagcagc tggggctggg cagccggcgc aaggcagcac tgggtgtgcc ggcatttgag  
 1020  
 accctgcgct accgcttcag cttcccccat tccaaggtgg agctgttggc cttgctggat  
 1080  
 gcgggcactc tctacacctt caggtaggag aggtacttct tctgcccact ccactcactt  
 1140  
 gcccaactg gccccacta cccacgagct cctagcctca gcctggctcc caccgaccc  
 1200  
 tgctgcacag gtaccacgat gccccgagc cagcaccaca cagactatgc ccgctggcgg  
 1260  
 gagctcaggc cccgtaccgt gtgcaatggg cggccaacta tgaaccctac gtggtgtgtc  
 1320  
 cagagactg tccccgctat gatcctcgct ttgtgggctt cggtc  
 1366

<210> 3712

<211> 368

<212> PRT

<213> Homo sapiens

<400> 3712

Xaa	His	Phe	Ser	Asp	Thr	Gln	Ala	Ile	Gly	Leu	Val	Glu	Asn	Gln	Ser
1				5					10					15	
Asp	Trp	Tyr	Leu	Gly	Asn	Leu	Trp	Lys	Asn	His	Arg	Pro	Trp	Pro	Ala
			20					25					30		
Leu	Gly	Arg	Gly	Phe	Asn	Thr	Gly	Val	Ile	Leu	Leu	Arg	Leu	Asp	Arg
		35					40					45			
Leu	Arg	Gln	Ala	Gly	Trp	Glu	Gln	Met	Trp	Arg	Leu	Thr	Ala	Arg	Arg
	50				55						60				
Glu	Leu	Leu	Ser	Leu	Pro	Ala	Ala	Ser	Leu	Ala	Asp	Gln	Asp	Ile	Phe
65				70						75				80	
Asn	Ala	Val	Ile	Lys	Glu	His	Pro	Gly	Leu	Val	Gln	Arg	Leu	Pro	Cys
			85					90						95	
Val	Trp	Asn	Val	Gln	Leu	Ser	Asp	His	Thr	Leu	Ala	Glu	Arg	Cys	Tyr
		100						105					110		
Ser	Glu	Ala	Ser	Asp	Leu	Lys	Val	Ile	His	Trp	Asn	Ser	Pro	Lys	Lys
		115					120					125			
Leu	Arg	Val	Lys	Asn	Lys	His	Val	Glu	Phe	Phe	Arg	Asn	Phe	Tyr	Leu
	130					135					140				
Thr	Phe	Leu	Glu	Tyr	Asp	Gly	Asn	Leu	Leu	Arg	Arg	Glu	Leu	Phe	Val
145				150						155				160	
Cys	Pro	Ser	Gln	Pro	Pro	Pro	Gly	Ala	Glu	Gln	Leu	Gln	Gln	Ala	Leu
			165					170						175	
Ala	Gln	Leu	Asp	Glu	Glu	Asp	Pro	Cys	Phe	Glu	Phe	Arg	Gln	Gln	Gln
		180					185					190			
Leu	Thr	Val	His	Arg	Val	His	Val	Thr	Phe	Leu	Pro	His	Glu	Pro	Pro
	195					200					205				
Pro	Pro	Arg	Pro	His	Asp	Val	Thr	Leu	Val	Ala	Gln	Leu	Ser	Met	Asp
	210				215						220				
Arg	Leu	Gln	Met	Leu	Glu	Ala	Leu	Cys	Arg	His	Trp	Pro	Gly	Pro	Met

```

225           230           235           240
Ser Leu Ala Leu Tyr Leu Thr Asp Ala Glu Ala Gln Gln Phe Leu His
                245           250           255
Phe Val Glu Ala Ser Pro Val Leu Ala Ala Arg Gln Asp Val Ala Tyr
                260           265           270
His Val Val Tyr Arg Glu Gly Pro Leu Tyr Pro Val Asn Gln Leu Arg
                275           280           285
Asn Val Ala Leu Ala Gln Ala Leu Thr Pro Tyr Val Phe Leu Ser Asp
                290           295           300
Ile Asp Phe Leu Pro Ala Tyr Ser Leu Tyr Asp Tyr Leu Arg Ala Ser
305           310           315           320
Ile Glu Gln Leu Gly Leu Gly Ser Arg Arg Lys Ala Ala Leu Val Val
                325           330           335
Pro Ala Phe Glu Thr Leu Arg Tyr Arg Phe Ser Phe Pro His Ser Lys
                340           345           350
Val Glu Leu Leu Ala Leu Leu Asp Ala Gly Thr Leu Tyr Thr Phe Arg
                355           360           365

```

&lt;210&gt; 3713

&lt;211&gt; 1719

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3713

```

ccatgggaag tagaacgcgc gctcgcatgc ctgcccgcgc gccagcctgc cgggtacggc
60
ctttccgcgc ggggcttcca ggtcaaagaa ttcgcctttg ccgctaccgc tttcttacc
120
tccgcacccg ttaagttctc cggtcgggcg gcagtctctg aacacttagc cgcgccatcc
180
ggggtcacac cgcctggaag gaggtgacgg gggcggcgcg gggcgcggaac actccccgct
240
gagagtccgc ctgccatgga ctcggaatat tacagcggcg accagtcaga tgatggtggt
300
gctaccccag tacaggatga acgggattca gggtcagacg gtgaggatga tgtaaatgag
360
caacactccg gatcagacac tggaagtgtg gaacgtcatt cagagaatga aactagtgat
420
cgagaagatg gcccccccaa aggacatcat gtgacagact ctgagaacga tgagccctta
480
aatcttaatg ctagtgactc tgaaagtgag gagcttcaca ggcaaaagga cagcgactct
540
gaatctgagg aacgtgcaga gcctcctgca agcgattctg aaaatgagga tgtcaatcag
600
catgggagcg actctgagag tgaagagacc aggaaattac ctggtagtga ctctgaaaat
660
gaggaacttc ttaatgggca tgcaagtgac tcagaaaacg aagatgttgg gaagcatccc
720
gccagtgatt ctgagattga ggagctccag aagagtcctg ctagtgactc tgaaacagaa
780
gatgctctaa aacctcaaat cagtgactct gagagtgagg aacccccaa gaccaaagcc
840
agtgactccg aaaatgagga gcctcccaaa cctcgaatga gtgattctga aagtgaggag
900

```

cttcctaaac ctcaggtcag tgattcagaa agtgaggaac cccaaggca ccaggccagt  
 960  
 gactctgaaa atgaggagct tcccaaacct cgtatcagtg actcagaaag tgaggaccct  
 1020  
 ccgaggcacc aggccagtga ctcagaaaat gaagagcttc ccaaaccctg aatcagtgat  
 1080  
 tcggaaagtg aggatcccc aaggaaccag gccagtgatt cggaaaatga ggagctaccc  
 1140  
 aaaccccgag tcagtgactc tgagagtga gggcctcaga aggggcctgc cagtgactca  
 1200  
 gaaactgagg atgcgtccag acacaaacag aagccagagt cagatgatga cagcgacagg  
 1260  
 gagaataagg gagaggatac agaaatgcag aatgactcct tccattcaga cagccatag  
 1320  
 gacagaaaaa agtttcacag ttctgatagt gaggaggaag aacacaaaaa gcaaaaaatg  
 1380  
 gacagtgatg aagatgaaaa agagggtgag gaggagaaag tagcgaagag aaaagctgct  
 1440  
 gtgctttctg atagtgaaga tgaagagaaa gcatcagcaa agaagagtcg tgttgctctt  
 1500  
 gatgcagatg actctgacag tgatgctgta tcagacaagt caggcaaaag agagaagacc  
 1560  
 atagcatctg acagtgagga agaagctggg aaagaattgt ctgataagaa aatgaagag  
 1620  
 aaggatctgt ttgggagtga cagtgaagca ggcaatgaag aagaaaatct tattgcagac  
 1680  
 atatttgagg aatctggtga tgaagaggaa gaagaattc  
 1719

&lt;210&gt; 3714

&lt;211&gt; 488

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3714

Met	Asp	Ser	Glu	Tyr	Tyr	Ser	Gly	Asp	Gln	Ser	Asp	Asp	Gly	Gly	Ala
1			5						10					15	
Thr	Pro	Val	Gln	Asp	Glu	Arg	Asp	Ser	Gly	Ser	Asp	Gly	Glu	Asp	Asp
			20					25					30		
Val	Asn	Glu	Gln	His	Ser	Gly	Ser	Asp	Thr	Gly	Ser	Val	Glu	Arg	His
			35				40					45			
Ser	Glu	Asn	Glu	Thr	Ser	Asp	Arg	Glu	Asp	Gly	Pro	Pro	Lys	Gly	His
		50				55					60				
His	Val	Thr	Asp	Ser	Glu	Asn	Asp	Glu	Pro	Leu	Asn	Leu	Asn	Ala	Ser
					70					75					80
Asp	Ser	Glu	Ser	Glu	Glu	Leu	His	Arg	Gln	Lys	Asp	Ser	Asp	Ser	Glu
				85					90					95	
Ser	Glu	Glu	Arg	Ala	Glu	Pro	Pro	Ala	Ser	Asp	Ser	Glu	Asn	Glu	Asp
			100					105					110		
Val	Asn	Gln	His	Gly	Ser	Asp	Ser	Glu	Ser	Glu	Glu	Thr	Arg	Lys	Leu
			115				120					125			
Pro	Gly	Ser	Asp	Ser	Glu	Asn	Glu	Glu	Leu	Leu	Asn	Gly	His	Ala	Ser
		130				135					140				
Asp	Ser	Glu	Asn	Glu	Asp	Val	Gly	Lys	His	Pro	Ala	Ser	Asp	Ser	Glu

```

145          150          155          160
Ile Glu Glu Leu Gln Lys Ser Pro Ala Ser Asp Ser Glu Thr Glu Asp
          165          170          175
Ala Leu Lys Pro Gln Ile Ser Asp Ser Glu Ser Glu Glu Pro Pro Arg
          180          185          190
His Gln Ala Ser Asp Ser Glu Asn Glu Glu Pro Pro Lys Pro Arg Met
          195          200          205
Ser Asp Ser Glu Ser Glu Glu Leu Pro Lys Pro Gln Val Ser Asp Ser
210          215          220
Glu Ser Glu Glu Pro Pro Arg His Gln Ala Ser Asp Ser Glu Asn Glu
225          230          235          240
Glu Leu Pro Lys Pro Arg Ile Ser Asp Ser Glu Ser Glu Asp Pro Pro
          245          250          255
Arg His Gln Ala Ser Asp Ser Glu Asn Glu Glu Leu Pro Lys Pro Arg
          260          265          270
Ile Ser Asp Ser Glu Ser Glu Asp Pro Pro Arg Asn Gln Ala Ser Asp
          275          280          285
Ser Glu Asn Glu Glu Leu Pro Lys Pro Arg Val Ser Asp Ser Glu Ser
290          295          300
Glu Gly Pro Gln Lys Gly Pro Ala Ser Asp Ser Glu Thr Glu Asp Ala
305          310          315          320
Ser Arg His Lys Gln Lys Pro Glu Ser Asp Asp Asp Ser Asp Arg Glu
          325          330          335
Asn Lys Gly Glu Asp Thr Glu Met Gln Asn Asp Ser Phe His Ser Asp
          340          345          350
Ser His Met Asp Arg Lys Lys Phe His Ser Ser Asp Ser Glu Glu Glu
          355          360          365
Glu His Lys Lys Gln Lys Met Asp Ser Asp Glu Asp Glu Lys Glu Gly
370          375          380
Glu Glu Glu Lys Val Ala Lys Arg Lys Ala Ala Val Leu Ser Asp Ser
385          390          395          400
Glu Asp Glu Glu Lys Ala Ser Ala Lys Lys Ser Arg Val Val Ser Asp
          405          410          415
Ala Asp Asp Ser Asp Ser Asp Ala Val Ser Asp Lys Ser Gly Lys Arg
          420          425          430
Glu Lys Thr Ile Ala Ser Asp Ser Glu Glu Glu Ala Gly Lys Glu Leu
          435          440          445
Ser Asp Lys Lys Asn Glu Glu Lys Asp Leu Phe Gly Ser Asp Ser Glu
450          455          460
Ser Gly Asn Glu Glu Glu Asn Leu Ile Ala Asp Ile Phe Gly Glu Ser
465          470          475          480
Gly Asp Glu Glu Glu Glu Glu Phe
          485

```

&lt;210&gt; 3715

&lt;211&gt; 288

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3715

ngccgcggcg cgggccccgc ggggggttaga ggtcaccatg ctgagggtcg cgtaaaggac

60

accacatccc tggaggctcg aattattgcc ttgtctggca agatccgcag ttatgaagaa

120

cacttgagaga aacatcgaaa ggacaaagcc cacaaacgct atctgcta atgagcattgac  
 180  
 cagaggaaaa agatgctcaa aaacctccgt aacaccaact atgatgtctt tgagaagata  
 240  
 tgctgggggc tgggaattga gtacaccttc cccctctgt attaccgn  
 288

<210> 3716

<211> 96

<212> PRT

<213> Homo sapiens

<400> 3716

Xaa	Arg	Gly	Ala	Gly	Pro	Ala	Gly	Val	Arg	Gly	His	His	Ala	Glu	Gly
1			5					10					15		
Arg	Val	Lys	Asp	Thr	Thr	Ser	Leu	Glu	Ala	Arg	Ile	Ile	Ala	Leu	Ser
		20					25					30			
Gly	Lys	Ile	Arg	Ser	Tyr	Glu	Glu	His	Leu	Glu	Lys	His	Arg	Lys	Asp
	35					40			45						
Lys	Ala	His	Lys	Arg	Tyr	Leu	Leu	Met	Ser	Ile	Asp	Gln	Arg	Lys	Lys
	50					55			60						
Met	Leu	Lys	Asn	Leu	Arg	Asn	Thr	Asn	Tyr	Asp	Val	Phe	Glu	Lys	Ile
65					70				75				80		
Cys	Trp	Gly	Leu	Gly	Ile	Glu	Tyr	Thr	Phe	Pro	Pro	Leu	Tyr	Tyr	Arg
			85					90					95		

<210> 3717

<211> 1545

<212> DNA

<213> Homo sapiens

<400> 3717

ntgatcagga cagatgtgtc attattatgt gagagtgtgc atttacaagg gaaatgatta  
 60  
 ttctggccca taaattatct taaaagctat ttattcgtt atgaacattt ttagagggga  
 120  
 taacatgggc cctcacaaca tcccaggag acaaaaacat agcagattta ataactaat  
 180  
 ttagcaagat aaaagtgtgg atttttgtga aaggtacaca ttttcttta caagtaaaag  
 240  
 tttcagatca ttattgatat ttacttattt taaagtaaag gcattacaca ctcaacattt  
 300  
 ggctgatct gatttttaaa cttcatccct aggattgata ttgctgatga tattattaat  
 360  
 gccagtgaag gtaacagaga ctgttcaaaa cctgtggcta gcactaattt agacaatgaa  
 420  
 gctatgcagc aagatttgtt atttgagaat gaagaaaata ccagtcctgt aggtatatgt  
 480  
 ttagagccat gcagtgaccg tggatgatag gaagatggct gtcttgagag ggaagaatat  
 540  
 ttgttatctg acagtgataa attgtcacac ttgattctgg attctagtag caagatatgt  
 600  
 gatttgaatg ccaacactga atcagaagta ccaggaggtc agagtgttgg tgttcaaggg  
 660



gaagcagcgt gtgtcagtat tccacattta gatctgaaga atgtttctga tggtgataaa  
 720  
 tgggaagagc catttcctgc ttttaagtct tggcaggagg actctgagtc tggagaagct  
 780  
 cagctgtctc cacaagctgg aagaatgaat catcacccct tggaagagga ctgtcctcca  
 840  
 gtattatcac accgcagttt agattttggt caaagccagc gtttcctaca tgatccagaa  
 900  
 aagttggatt cctcatctaa agcactgtct tttactagaa ttcgaagatc atcctttagt  
 960  
 tcaaaagatg aaaagagaga ggacagaaca ccttatcagc tggtaagaa acttcagaag  
 1020  
 aaaatcagac aatttgagga acagtttgaa agggaaagaa atagcaagcc ctctacagt  
 1080  
 gatattgctg ccaatccaaa ggtattaaaa tggatgacag agcttacaaa actgcggaag  
 1140  
 caaattaaag atgcaaaaaca caaaaattct gatggagaat ttgtacctca gacacgtcca  
 1200  
 cgtagtaaca cacttcctaaa agctttggc tcttctctag accatgaaga tgaagagaat  
 1260  
 gaagatgaac ccaaggctcat tcagaaggag aaaaaacat ctaaagaagc aacccttgaa  
 1320  
 cttattctta aaagactgaa agaaaaacgt attgagaggt gtcttccaga agatatcaag  
 1380  
 aaaatgacca aagatcattt ggtagaagag aaagcttctc ttcagaaaag tcttctttac  
 1440  
 tatgaaagtc aacatggaag gccggtgacc aaggaagaaa ggcacattgt taaacctctc  
 1500  
 tatgatagat acaggcttgt aaaacaaatg ctgacaagag ctagc  
 1545

&lt;210&gt; 3718

&lt;211&gt; 374

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3718

Met	Gln	Gln	Asp	Cys	Val	Phe	Glu	Asn	Glu	Glu	Asn	Thr	Gln	Ser	Val
1				5					10					15	
Gly	Ile	Leu	Leu	Glu	Pro	Cys	Ser	Asp	Arg	Gly	Asp	Ser	Glu	Asp	Gly
			20					25					30		
Cys	Leu	Glu	Arg	Glu	Glu	Tyr	Leu	Leu	Phe	Asp	Ser	Asp	Lys	Leu	Ser
			35				40					45			
His	Leu	Ile	Leu	Asp	Ser	Ser	Ser	Lys	Ile	Cys	Asp	Leu	Asn	Ala	Asn
			50				55				60				
Thr	Glu	Ser	Glu	Val	Pro	Gly	Gly	Gln	Ser	Val	Gly	Val	Gln	Gly	Glu
65					70				75					80	
Ala	Ala	Cys	Val	Ser	Ile	Pro	His	Leu	Asp	Leu	Lys	Asn	Val	Ser	Asp
			85					90					95		
Gly	Asp	Lys	Trp	Glu	Glu	Pro	Phe	Pro	Ala	Phe	Lys	Ser	Trp	Gln	Glu
			100					105					110		
Asp	Ser	Glu	Ser	Gly	Glu	Ala	Gln	Leu	Ser	Pro	Gln	Ala	Gly	Arg	Met
			115				120					125			
Asn	His	His	Pro	Leu	Glu	Glu	Asp	Cys	Pro	Pro	Val	Leu	Ser	His	Arg

```

      130      135      140
Ser Leu Asp Phe Gly Gln Ser Gln Arg Phe Leu His Asp Pro Glu Lys
145      150      155      160
Leu Asp Ser Ser Ser Lys Ala Leu Ser Phe Thr Arg Ile Arg Arg Ser
      165      170      175
Ser Phe Ser Ser Lys Asp Glu Lys Arg Glu Asp Arg Thr Pro Tyr Gln
      180      185      190
Leu Val Lys Lys Leu Gln Lys Lys Ile Arg Gln Phe Glu Glu Gln Phe
      195      200      205
Glu Arg Glu Arg Asn Ser Lys Pro Ser Tyr Ser Asp Ile Ala Ala Asn
      210      215      220
Pro Lys Val Leu Lys Trp Met Thr Glu Leu Thr Lys Leu Arg Lys Gln
      225      230      235      240
Ile Lys Asp Ala Lys His Lys Asn Ser Asp Gly Glu Phe Val Pro Gln
      245      250      255
Thr Arg Pro Arg Ser Asn Thr Leu Pro Lys Ser Phe Gly Ser Ser Leu
      260      265      270
Asp His Glu Asp Glu Glu Asn Glu Asp Glu Pro Lys Val Ile Gln Lys
      275      280      285
Glu Lys Lys Pro Ser Lys Glu Ala Thr Leu Glu Leu Ile Leu Lys Arg
      290      295      300
Leu Lys Glu Lys Arg Ile Glu Arg Cys Leu Pro Glu Asp Ile Lys Lys
      305      310      315      320
Met Thr Lys Asp His Leu Val Glu Glu Lys Ala Ser Leu Gln Lys Ser
      325      330      335
Leu Leu Tyr Tyr Glu Ser Gln His Gly Arg Pro Val Thr Lys Glu Glu
      340      345      350
Arg His Ile Val Lys Pro Leu Tyr Asp Arg Tyr Arg Leu Val Lys Gln
      355      360      365
Met Leu Thr Arg Ala Ser
      370

```

&lt;210&gt; 3719

&lt;211&gt; 422

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3719

nnncatctgc gctgagtggg agtataataa aatacctcnn cactggggac tgggatggga

60

ttttgggctt ggctgctccg tggtttgatc tttcgcggtt tgcctgggtc ctacatgggt

120

gggcaaccag aaccccggtg gggaaagaat aaccaaaaaa agtttgagtg caacagtaga

180

cagcccggtt gcaaaaatgt gtgttttgat gacttcttcc ccatttccca agtcagactt

240

tgggccttac aactgataat ggtctccaca ccttcacttc tgggtggtttt acatgtagcc

300

tatcatgagg gtagagagaa aaggcacaga aagaaactct atgtcagccc aggtacaatg

360

gatggggggcc tatggtacgc ttatcttatc agcctcattg ttaaaactgg ttttgaaacn

420

nn

422

<210> 3720  
 <211> 122  
 <212> PRT  
 <213> Homo sapiens

<400> 3720  
 Met Gly Phe Trp Ala Trp Leu Leu Arg Gly Leu Ile Phe Arg Gly Leu  
   1                  5                  10                  15  
 Pro Gly Ser Tyr Met Gly Gly Gln Pro Glu Pro Arg Val Gly Lys Asn  
                   20                  25                  30  
 Asn Gln Lys Lys Phe Glu Cys Asn Ser Arg Gln Pro Gly Cys Lys Asn  
           35                  40                  45  
 Val Cys Phe Asp Asp Phe Phe Pro Ile Ser Gln Val Arg Leu Trp Ala  
       50                  55                  60  
 Leu Gln Leu Ile Met Val Ser Thr Pro Ser Leu Leu Val Val Leu His  
 65                  70                  75                  80  
 Val Ala Tyr His Glu Gly Arg Glu Lys Arg His Arg Lys Lys Leu Tyr  
                   85                  90                  95  
 Val Ser Pro Gly Thr Met Asp Gly Gly Leu Trp Tyr Ala Tyr Leu Ile  
                   100                  105                  110  
 Ser Leu Ile Val Lys Thr Gly Phe Glu Thr  
           115                  120

<210> 3721  
 <211> 4728  
 <212> DNA  
 <213> Homo sapiens

<400> 3721  
 agcgagaagg agaaggaaga gttggagcgg ctgcagaaag aggaggagga gaggaagaag  
 60  
 aggctgcagc tgtatgtgtt cgtgatgcgc tgcctgcctt acccctttaa tgccaagcag  
 120  
 cccaccgaca tggctcgccg gcagcagaag atcagcaaac agcagctgca gacagtcaag  
 180  
 gaccggtttc aggttttct caatggggaa acccagatca tggctgacga agccttcattg  
 240  
 aacgctgtgc agagttacta tgaggtgttc ctgaagagcg accgtgtggc ccgcatgggtt  
 300  
 cagagtggag gctgttccgc caacgactcc cgggaggtct tcaagaagca cattgagaag  
 360  
 agagtgcgca gcctgcctga gattgacggc ctacagcaagg agactgtgct gagctcctgg  
 420  
 atggccaaat ttgatgccat ctaccgtgga gaagaggacc cgcggaagca gcaggcccgg  
 480  
 atgacagcca ggcagcctc cgagctgatt ctgagcaagg agcaactcta tgagatgttc  
 540  
 cagaacattc ttgggatcaa gaagttcgaa catcagctcc tttaaatgc ctgccagctg  
 600  
 gacaatccag atgagcaagc agcccagatc agacgagagc tggatggacg tctacaaatg  
 660  
 gcagacaaa tagccaggga acgcaaattt cccaagtttg tatccaaaga aatggaaaaac  
 720

atgtacattg aggagctgaa gtcattctgtc aacctgctca tggccaactt ggagagcatg  
780  
ccggtatcca aaggcgggga gttcaagctc cagaaactca aacgcagcca caatgcttcc  
840  
atcatcgaca tgggcgagga gagtgagaac cagctctcca agtcagatgt cgtgctgtct  
900  
ttctcattgg aggtggtaat tatggaagtc caaggcctca aatctttggc tccaaatcgc  
960  
atcgtatatt gcacaatgga ggtggaagga ggagagaaac tacagactga tcaggccgag  
1020  
gcttctaaac caacctgggg caccaggggt gacttctcca caaccatgc actgccagct  
1080  
gtgaagggtga agctgttcac agagagcaca ggcgtcctgg cgttggagga caaggagctt  
1140  
gggcggggtta ttctccatcc caccgccgaac agccccaac agtcagagtgc gcacaaaatg  
1200  
acagtctcca aaaactgccc caaccaagat ctcaaaatca aacttgctgt ccgaatggat  
1260  
aagcctcaaa acatgaagca ttctgggtat ttatgggcca tcggtaagaa tgtctggaag  
1320  
agatggaaga aaagggtttt tgtattggtg caggtcagtc agtacacgtt tgccatgtgc  
1380  
agttatcggg agaagaaagc ggagcctcag gaacttctac aattggatgg ctacactgtg  
1440  
gattacaccg acccccagcc aggtttggag ggtggccgag ccttcttcaa tgctgtcaag  
1500  
gaggagagaca ccgtgatatt tgccagtgc gatgaacaag accgcacccct gtgggtccag  
1560  
gccatgtatc gggccacggg gcagtcacac aagcctgtgc ccccgaccca agtccagaaa  
1620  
ctcaacgcca agggaggaaa tgtacctcag ctggatgccc ctatctctca attttctgga  
1680  
ctgaaggacg cagatagagc tcaaaaacat ggcattggatg aatttatctc ttccaacccc  
1740  
tgtaactttg accacgcttc cctctttgag atggtacaac gccttacttt ggatcacaga  
1800  
cttaatgatt cctattcttg cctgggctgg ttcagtcctg gccagggtgtt tgtactagac  
1860  
gagtattgag cccgaaatgg agtccggggg tgcaccgac atctctgcta cctcagagac  
1920  
ttgcttgaac gggcagaaaa tggcgccatg atcgacccca cccttcttca ctacagcttt  
1980  
gccttctgtg catcccatgt ccatgggaac aggcctgatg gaattggaac tgtgactgtt  
2040  
gaagaaaagg aacgttttga agaaatcaaa gagaggctcc gagttctgct agaaaatcag  
2100  
attacacatt ttaggtattg ctttccattt ggtcgacctg aagggtgcttt gaaagctact  
2160  
ctctactct tggaaagggt tttgatgaaa gatattgtta cccagtgcc acaagaggag  
2220  
gtaaaaacag ttatccgtaa atgtctggaa caggctgcgt tagtcaacta ttctcggctc  
2280  
tcagagtatg ccaaaatcga agagaatcaa aaggatgcag aaaatgtagg ccggttaatc  
2340

actcctgcc aaaaagcttga agatacaata cgtcttgctg aactagtcac tgaagttctt  
2400  
cagcaaaatg aggagcacca cgcagagcca catgttgata aaggagaggc ctttgcgtagg  
2460  
tggtcagatt taatggtgga gcatgaggag acgttcctgt cactctttgc agtagacatg  
2520  
gatgcagcct tagagggtgca acctccagac acatgggaca gttttccact atttcagctg  
2580  
ctgaatgatt ttctccgtac tgactataat ttgtgcaatg gaaaatttca caaacacctg  
2640  
caagacctgt ttgccccact tgttggttaga tatgtggatc tgatggagtc ctcaattgca  
2700  
caatccattc acaggggctt tgagcgggag tcatgggaac cagtcaataa tgggtcaggc  
2760  
acctcagaag atctgttttg gaaacttgac gcccttcaga ccttcattcg ggacctgcac  
2820  
tggcctgaag aagagtttgg aaagcacctg gaacaacggc tgaagttgat ggcaagtgc  
2880  
atgatcgaat cttgtgtcaa aagaaccagg attgcatttg aagttaagct gcaaaaaacc  
2940  
agtcgatcaa cagattttcg agtcccacag tcaatatgca ccatgtttaa tgttatgggt  
3000  
gatgcaaaag ctcaatcaac aaaactttgc agcatggaaa tgggccaaga gtttgctaaa  
3060  
atgtggcatc aataccattc aaaaatagac gaactaattg aagaaactgt taaagaaatg  
3120  
ataacactct tggttgcaaa gtctgttact atcttggaag gagtgctggc aaaattatcc  
3180  
agatatgacg aagggaactt gttttcttct tttctgtcat ttaccgtgaa ggcagcttcc  
3240  
aaatatgtgg atgtacctaa acccgggatg gacgtggccg acgcctacgt gactttcgtc  
3300  
cgccattctc aggatgtcct gcgtgataag gtcaatgagg agatgtacat agaaaggtta  
3360  
tttgatcaat ggtacaacag ctccatgaac gtgatctgca cctgggtgac ggaccggatg  
3420  
gacttacagc ttcataattta tcagttgaaa acactaatta ggatggtaaa gaaaacctac  
3480  
agagatttcc gattgcaagg ggtcctggac tccaccttaa acagcaagac ctatgaaacg  
3540  
atccggaacc gtctcactgt ggaggaagcc acagcatcag tgagtgaagg tgggggactg  
3600  
cagggcatca gcatgaagga cagcgatgag gaagacgaag aagacgatta gaccatttgg  
3660  
tcctagagtc tgctgggaca gagtcctgta atcagtgcac gtccttagtc tgttagttaa  
3720  
accattagg aattttctgt caactacat gcccatgaga tgtttatcaa tacaactgcc  
3780  
attttagcta tgtggtacca agattagcaa atgaccttca tatccactga tttcctgatg  
3840  
tccatgtcta tatgtttaca agcaatatgg agcaccattc tttaaatact gttcatggag  
3900  
aatacatagt ctaaccacta ggcgtgtccc tggtatcagc aaagatcaat gatgcttcat  
3960

tcatgtacta tgtatgcatt ggtggtaaatt ggatgtgagg gcaagtacat caagtacatt  
 4020  
 cactctgttt cacgtatgtg gatgccagtt aattaaatga gtacgtaaat aaattaatta  
 4080  
 aaacacatag atctgctttg tgtttttatt tttatTTTTT gaaaaacaaa aggcaagtct  
 4140  
 ccaacaatta acttttgatg ctttctgttc ccctaaaacc aaaaaatgaa ccccttgtgt  
 4200  
 cgttgttaac ccaccccttc atttactcat ataattagcc aaaaaaaaaa ggatggctac  
 4260  
 ataccaatgg attgattctc ttaattgcc a cggaaggagg gcgacccat catgacttaa  
 4320  
 catcaagcgc gcagttcaaa actactgtct tctgtcaaag ttttctctc ttaaatgtta  
 4380  
 ttttgctttt acgtctcaac tgtgtatgta aaaaaaacga atatttaaat tacaacccta  
 4440  
 gactaaaaat gtgtttataa taagatgtgg atatttcctt cagtagattg taaccataat  
 4500  
 ttaaattatt ttgtccaca ctgttttta tatctgtcat gtacattgca tttgatctg  
 4560  
 taactgcaca accctggggg ttgctgcaga gctatttctt tccatgtaaa gtagtggatc  
 4620  
 catcttgctt ttgccttata taaagcctac agttatggaa gtgtggaaaa ctgtggcttc  
 4680  
 tcaataaata ttcatgtgc ctaagaataa aaaaaaaaaa aaaaaaaaaa  
 4728

&lt;210&gt; 3722

&lt;211&gt; 1216

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3722

Ser Glu Lys Glu Lys Glu Glu Leu Glu Arg Leu Gln Lys Glu Glu Glu  
 1 5 10 15  
 Glu Arg Lys Lys Arg Leu Gln Leu Tyr Val Phe Val Met Arg Cys Ile  
 20 25 30  
 Ala Tyr Pro Phe Asn Ala Lys Gln Pro Thr Asp Met Ala Arg Arg Gln  
 35 40 45  
 Gln Lys Ile Ser Lys Gln Gln Leu Gln Thr Val Lys Asp Arg Phe Gln  
 50 55 60  
 Ala Phe Leu Asn Gly Glu Thr Gln Ile Met Ala Asp Glu Ala Phe Met  
 65 70 75 80  
 Asn Ala Val Gln Ser Tyr Tyr Glu Val Phe Leu Lys Ser Asp Arg Val  
 85 90 95  
 Ala Arg Met Val Gln Ser Gly Gly Cys Ser Ala Asn Asp Ser Arg Glu  
 100 105 110  
 Val Phe Lys Lys His Ile Glu Lys Arg Val Arg Ser Leu Pro Glu Ile  
 115 120 125  
 Asp Gly Leu Ser Lys Glu Thr Val Leu Ser Ser Trp Met Ala Lys Phe  
 130 135 140  
 Asp Ala Ile Tyr Arg Gly Glu Glu Asp Pro Arg Lys Gln Gln Ala Arg  
 145 150 155 160  
 Met Thr Ala Ser Ala Ala Ser Glu Leu Ile Leu Ser Lys Glu Gln Leu

2871

595					600					605					
Gly	Trp	Phe	Ser	Pro	Gly	Gln	Val	Phe	Val	Leu	Asp	Glu	Tyr	Cys	Ala
610						615					620				
Arg	Asn	Gly	Val	Arg	Gly	Cys	His	Arg	His	Leu	Cys	Tyr	Leu	Arg	Asp
625					630					635					640
Leu	Leu	Glu	Arg	Ala	Glu	Asn	Gly	Ala	Met	Ile	Asp	Pro	Thr	Leu	Leu
				645					650					655	
His	Tyr	Ser	Phe	Ala	Phe	Cys	Ala	Ser	His	Val	His	Gly	Asn	Arg	Pro
			660					665				670			
Asp	Gly	Ile	Gly	Thr	Val	Thr	Val	Glu	Glu	Lys	Glu	Arg	Phe	Glu	Glu
		675					680					685			
Ile	Lys	Glu	Arg	Leu	Arg	Val	Leu	Leu	Glu	Asn	Gln	Ile	Thr	His	Phe
690						695					700				
Arg	Tyr	Cys	Phe	Pro	Phe	Gly	Arg	Pro	Glu	Gly	Ala	Leu	Lys	Ala	Thr
705					710					715					720
Leu	Ser	Leu	Leu	Glu	Arg	Val	Leu	Met	Lys	Asp	Ile	Val	Thr	Pro	Val
				725					730					735	
Pro	Gln	Glu	Glu	Val	Lys	Thr	Val	Ile	Arg	Lys	Cys	Leu	Glu	Gln	Ala
				740				745					750		
Ala	Leu	Val	Asn	Tyr	Ser	Arg	Leu	Ser	Glu	Tyr	Ala	Lys	Ile	Glu	Glu
			755				760					765			
Asn	Gln	Lys	Asp	Ala	Glu	Asn	Val	Gly	Arg	Leu	Ile	Thr	Pro	Ala	Lys
770						775					780				
Lys	Leu	Glu	Asp	Thr	Ile	Arg	Leu	Ala	Glu	Leu	Val	Ile	Glu	Val	Leu
785					790					795					800
Gln	Gln	Asn	Glu	Glu	His	His	Ala	Glu	Pro	His	Val	Asp	Lys	Gly	Glu
				805					810					815	
Ala	Phe	Ala	Trp	Trp	Ser	Asp	Leu	Met	Val	Glu	His	Ala	Glu	Thr	Phe
			820					825					830		
Leu	Ser	Leu	Phe	Ala	Val	Asp	Met	Asp	Ala	Ala	Leu	Glu	Val	Gln	Pro
			835				840					845			
Pro	Asp	Thr	Trp	Asp	Ser	Phe	Pro	Leu	Phe	Gln	Leu	Leu	Asn	Asp	Phe
850						855					860				
Leu	Arg	Thr	Asp	Tyr	Asn	Leu	Cys	Asn	Gly	Lys	Phe	His	Lys	His	Leu
865					870					875					880
Gln	Asp	Leu	Phe	Ala	Pro	Leu	Val	Val	Arg	Tyr	Val	Asp	Leu	Met	Glu
				885					890					895	
Ser	Ser	Ile	Ala	Gln	Ser	Ile	His	Arg	Gly	Phe	Glu	Arg	Glu	Ser	Trp
			900					905					910		
Glu	Pro	Val	Asn	Asn	Gly	Ser	Gly	Thr	Ser	Glu	Asp	Leu	Phe	Trp	Lys
		915					920					925			
Leu	Asp	Ala	Leu	Gln	Thr	Phe	Ile	Arg	Asp	Leu	His	Trp	Pro	Glu	Glu
930						935						940			
Glu	Phe	Gly	Lys	His	Leu	Glu	Gln	Arg	Leu	Lys	Leu	Met	Ala	Ser	Asp
945					950					955					960
Met	Ile	Glu	Ser	Cys	Val	Lys	Arg	Thr	Arg	Ile	Ala	Phe	Glu	Val	Lys
				965					970					975	
Leu	Gln	Lys	Thr	Ser	Arg	Ser	Thr	Asp	Phe	Arg	Val	Pro	Gln	Ser	Ile
			980					985					990		
Cys	Thr	Met	Phe	Asn	Val	Met	Val	Asp	Ala	Lys	Ala	Gln	Ser	Thr	Lys
			995				1000					1005			
Leu	Cys	Ser	Met	Glu	Met	Gly	Gln	Glu	Phe	Ala	Lys	Met	Trp	His	Gln
1010						1015						1020			
Tyr	His	Ser	Lys	Ile	Asp	Glu	Leu	Ile	Glu	Glu	Thr	Val	Lys	Glu	Met



1025                      1030                      1035                      1040  
 Ile Thr Leu Leu Val Ala Lys Phe Val Thr Ile Leu Glu Gly Val Leu  
                                  1045                      1050                      1055  
 Ala Lys Leu Ser Arg Tyr Asp Glu Gly Thr Leu Phe Ser Ser Phe Leu  
                                  1060                      1065                      1070  
 Ser Phe Thr Val Lys Ala Ala Ser Lys Tyr Val Asp Val Pro Lys Pro  
                                  1075                      1080                      1085  
 Gly Met Asp Val Ala Asp Ala Tyr Val Thr Phe Val Arg His Ser Gln  
                                  1090                      1095                      1100  
 Asp Val Leu Arg Asp Lys Val Asn Glu Glu Met Tyr Ile Glu Arg Leu  
 1105                      1110                      1115                      1120  
 Phe Asp Gln Trp Tyr Asn Ser Ser Met Asn Val Ile Cys Thr Trp Leu  
                                  1125                      1130                      1135  
 Thr Asp Arg Met Asp Leu Gln Leu His Ile Tyr Gln Leu Lys Thr Leu  
                                  1140                      1145                      1150  
 Ile Arg Met Val Lys Lys Thr Tyr Arg Asp Phe Arg Leu Gln Gly Val  
                                  1155                      1160                      1165  
 Leu Asp Ser Thr Leu Asn Ser Lys Thr Tyr Glu Thr Ile Arg Asn Arg  
                                  1170                      1175                      1180  
 Leu Thr Val Glu Glu Ala Thr Ala Ser Val Ser Glu Gly Gly Gly Leu  
 1185                      1190                      1195                      1200  
 Gln Gly Ile Ser Met Lys Asp Ser Asp Glu Glu Asp Glu Glu Asp Asp  
                                  1205                      1210                      1215

&lt;210&gt; 3723

&lt;211&gt; 830

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3723

atcctcttga tgcacaagat gaggggttttg cacctggacc tcaagccaga gaacatcctg  
 60  
 tgtgtcaaca ccaccgggca tttggtgaag atcattgact ttggcctggc acggaggtat  
 120  
 aaccccaacg agaagctgaa ggtgaacttt gggacccag agttcctgtc acctgaggtg  
 180  
 gtgaattatg accaaatctc cgataagaca gacatgtgga gtatgggggt gatcacctac  
 240  
 atgctgtcga gcggcctctc ccccttctctg ggagatgatg acacagagac cctaaacaac  
 300  
 gttctatctg gcaactggta ctttgatgaa gagacctttg aggccgtatc agacgaggcc  
 360  
 aaagactttg tctccaacct catcgtcaag gaccagaggg cccggatgaa cgctgcccag  
 420  
 tgtctgccc atccctggct caacaacctg gcggagaaag ccaaacgctg taaccgacgc  
 480  
 cttaagtccc agatcttgct taagaaatac ctcatgaaga ggcgctggaa gaaaaacttc  
 540  
 attgctgtca gcgctgccaa ccgcttcaag aagatcagca gctcgggggc actgatggct  
 600  
 ctgggggtct gagccctggg gcgagctgaa gcctggacgc agccacacag tggccggggc  
 660  
 tgaagccaca cagcccagaa ggccagaaaa ggcagccaga tccccagggc agcctcgtaa  
 720

ggacaaggct gtgccaggct gggaggctcg gggctcccca cgcccccatg cagtgaccgc  
 780  
 ttccccgatg tgagccgcct cggagtgtgg cctggatcca tctgtctagc  
 830

<210> 3724  
 <211> 203  
 <212> PRT  
 <213> Homo sapiens

<400> 3724  
 Ile Leu Leu Met His Lys Met Arg Val Leu His Leu Asp Leu Lys Pro  
 1 5 10 15  
 Glu Asn Ile Leu Cys Val Asn Thr Thr Gly His Leu Val Lys Ile Ile  
 20 25 30  
 Asp Phe Gly Leu Ala Arg Arg Tyr Asn Pro Asn Glu Lys Leu Lys Val  
 35 40 45  
 Asn Phe Gly Thr Pro Glu Phe Leu Ser Pro Glu Val Val Asn Tyr Asp  
 50 55 60  
 Gln Ile Ser Asp Lys Thr Asp Met Trp Ser Met Gly Val Ile Thr Tyr  
 65 70 75 80  
 Met Leu Leu Ser Gly Leu Ser Pro Phe Leu Gly Asp Asp Asp Thr Glu  
 85 90 95  
 Thr Leu Asn Asn Val Leu Ser Gly Asn Trp Tyr Phe Asp Glu Glu Thr  
 100 105 110  
 Phe Glu Ala Val Ser Asp Glu Ala Lys Asp Phe Val Ser Asn Leu Ile  
 115 120 125  
 Val Lys Asp Gln Arg Ala Arg Met Asn Ala Ala Gln Cys Leu Ala His  
 130 135 140  
 Pro Trp Leu Asn Asn Leu Ala Glu Lys Ala Lys Arg Cys Asn Arg Arg  
 145 150 155 160  
 Leu Lys Ser Gln Ile Leu Leu Lys Lys Tyr Leu Met Lys Arg Arg Trp  
 165 170 175  
 Lys Lys Asn Phe Ile Ala Val Ser Ala Ala Asn Arg Phe Lys Lys Ile  
 180 185 190  
 Ser Ser Ser Gly Ala Leu Met Ala Leu Gly Val  
 195 200

<210> 3725  
 <211> 1244  
 <212> DNA  
 <213> Homo sapiens

<400> 3725  
 ngaattcatg tgtcaggtaa ggatattaca aggaaacctg agatttctgg gcatgtaatt  
 60  
 tctgctcatg gcttatcagt cttgaatctg cgggatggaa gagagctgga ttccagatct  
 120  
 gaccatcttc acttttgttt tcaggccttt aaaattgtgc cctacaacac agagaccctt  
 180  
 gataaactgc taaccgaatc cctgaagaac aatatccctg caagcggact gcacctcttt  
 240  
 ggaatcaacc agctggaaga agaagatatg atgacaaatc agagggatga agagctgccc  
 300

accctgttgc attttctgc gaagtatgga ctgaagaacc tcaactgcctt gttgtcacc  
 360  
 tgcccaggag ccctgcaggc gtacagcgtg gccacaagc atggccacta ccccaacacc  
 420  
 atcgtcgaga aacacggctt cagggacctg cggcagttca tcgacgagta tgtggaaacg  
 480  
 gtggacatgc tcaagagtca cattaaagag gaactgatgc acggggagga ggctgatgct  
 540  
 gtgtacgagt ccatggccca ctttccaca gacctgctta tgaaatgctc gctcaacccc  
 600  
 ggctgtgacg aggatctcta tgagtccatg gctgcctttg tcccagctgc cactgaagac  
 660  
 ctctatgttg aaatgcttca ggccagtaça tctaaccctaa tccctggaga tggtttctct  
 720  
 cgggccacta aggactctat gatccgcaag tttttagaag gcaacagcat gggaatgacc  
 780  
 aatctggaga gagatcagtg ccatcttggg caggaagaag atgtttatca cacggtggat  
 840  
 gacgatgagg ccttttctgt ggacttggcc agcaggcccc ctgtcccagt gccagacca  
 900  
 gagaccactg ctcttggtgc tcaccagctg cctgacaacg aaccatacat ttttaaaggc  
 960  
 aagtatggca gggaatgatg tccaactggt tctttggagc ttctcaacag ggatttctct  
 1020  
 gatgacctgg ctttttgaac cattgctcag agactatccc cttctaaatg gtcttcaccc  
 1080  
 agccctacga gacaggggtc atatcctggg gccagattct ggagctagaa taggagtaat  
 1140  
 gaccagagtc agtgcctggc ttcttggaag tatttacgca cagttgcaaa ggcaggtaaa  
 1200  
 caagaccctt gatataatct tatctctga accccttcac gcgt  
 1244

<210> 3726

<211> 325

<212> PRT

<213> Homo sapiens

<400> 3726

Xaa	Ile	His	Val	Ser	Gly	Lys	Asp	Ile	Thr	Arg	Lys	Pro	Glu	Ile	Ser
1				5				10					15		
Gly	His	Val	Ile	Ser	Ala	His	Gly	Leu	Ser	Val	Leu	Asn	Leu	Arg	Asp
			20					25					30		
Gly	Arg	Glu	Leu	Asp	Phe	Arg	Ser	Asp	His	Leu	His	Phe	Cys	Phe	Gln
			35					40					45		
Ala	Phe	Lys	Ile	Val	Pro	Tyr	Asn	Thr	Glu	Thr	Leu	Asp	Lys	Leu	Leu
			50				55				60				
Thr	Glu	Ser	Leu	Lys	Asn	Asn	Ile	Pro	Ala	Ser	Gly	Leu	His	Leu	Phe
			65			70				75				80	
Gly	Ile	Asn	Gln	Leu	Glu	Glu	Glu	Asp	Met	Met	Thr	Asn	Gln	Arg	Asp
			85					90					95		
Glu	Glu	Leu	Pro	Thr	Leu	Leu	His	Phe	Ala	Ala	Lys	Tyr	Gly	Leu	Lys
			100					105					110		
Asn	Leu	Thr	Ala	Leu	Leu	Leu	Thr	Cys	Pro	Gly	Ala	Leu	Gln	Ala	Tyr

```

      115      120      125
Ser Val Ala Asn Lys His Gly His Tyr Pro Asn Thr Ile Ala Glu Lys
      130      135      140
His Gly Phe Arg Asp Leu Arg Gln Phe Ile Asp Glu Tyr Val Glu Thr
145      150      155      160
Val Asp Met Leu Lys Ser His Ile Lys Glu Glu Leu Met His Gly Glu
      165      170      175
Glu Ala Asp Ala Val Tyr Glu Ser Met Ala His Leu Ser Thr Asp Leu
      180      185      190
Leu Met Lys Cys Ser Leu Asn Pro Gly Cys Asp Glu Asp Leu Tyr Glu
      195      200      205
Ser Met Ala Ala Phe Val Pro Ala Ala Thr Glu Asp Leu Tyr Val Glu
      210      215      220
Met Leu Gln Ala Ser Thr Ser Asn Pro Ile Pro Gly Asp Gly Phe Ser
225      230      235      240
Arg Ala Thr Lys Asp Ser Met Ile Arg Lys Phe Leu Glu Gly Asn Ser
      245      250      255
Met Gly Met Thr Asn Leu Glu Arg Asp Gln Cys His Leu Gly Gln Glu
      260      265      270
Glu Asp Val Tyr His Thr Val Asp Asp Asp Glu Ala Phe Ser Val Asp
      275      280      285
Leu Ala Ser Arg Pro Pro Val Pro Val Pro Arg Pro Glu Thr Thr Ala
      290      295      300
Pro Gly Ala His Gln Leu Pro Asp Asn Glu Pro Tyr Ile Phe Lys Gly
305      310      315      320
Lys Tyr Gly Arg Glu
      325

```

&lt;210&gt; 3727

&lt;211&gt; 630

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3727

```

cggattcgag tcatcaagaa gaaaaagggtc attatgaaga agcgggaagaa gctaactcta
60
actcgcccca cccactggt gactgccggg ccccttgtga cccccactcc agcaggggacc
120
ctcgaccccg ctgagaaaca agaaacaggc tgtcctcctt tgggtctgga gtccttgcca
180
gtttcagata gccggcttga ggcattccagc agccagtcct ttggtcttgg accacaccga
240
ggacggctca acattcagtc aggcctggag gacggcgatc tatatgatgg agcctgggtgt
300
gctgaggagc aggacgccga tccatgggtt caggtggacg ctgggcaccc caccgccttc
360
tcgggtgtta tcacacaggg caggaactct gtctggaggt atgactgggt cacatcatac
420
aagggtccagt tcagcaatga cagtcggacc tgggtgggaa gtaggaacca cagcagtggtg
480
atggacgcag tatttcctgc caattcagac ccagaaactc cagtgtctgaa cctcctgccg
540
gagccccagg tggcccgtt cattcgctg ctgccccaga cctgggtcca gggaggcgcg
600

```

ccttgccctcc gggcagagat cctggcctgc  
630

<210> 3728

<211> 210

<212> PRT

<213> Homo sapiens

<400> 3728

Arg Ile Arg Val Ile Lys Lys Lys Lys Val Ile Met Lys Lys Arg Lys  
1 5 10 15  
Lys Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu  
20 25 30  
Val Thr Pro Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu  
35 40 45  
Thr Gly Cys Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser  
50 55 60  
Arg Leu Glu Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg  
65 70 75 80  
Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp  
85 90 95  
Gly Ala Trp Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val  
100 105 110  
Asp Ala Gly His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg  
115 120 125  
Asn Ser Val Trp Arg Tyr Asp Trp Val Thr Ser Tyr Lys Val Gln Phe  
130 135 140  
Ser Asn Asp Ser Arg Thr Trp Trp Gly Ser Arg Asn His Ser Ser Gly  
145 150 155 160  
Met Asp Ala Val Phe Pro Ala Asn Ser Asp Pro Glu Thr Pro Val Leu  
165 170 175  
Asn Leu Leu Pro Glu Pro Gln Val Ala Arg Phe Ile Arg Leu Leu Pro  
180 185 190  
Gln Thr Trp Leu Gln Gly Gly Ala Pro Cys Leu Arg Ala Glu Ile Leu  
195 200 205  
Ala Cys  
210

<210> 3729

<211> 1552

<212> DNA

<213> Homo sapiens

<400> 3729

naggaaacgc tttgtctgtc cggcaagccg acggcccgcg gctggcctcc gtgacgcggg  
60  
cctcctccgc gcctcgcggc atggagtaga aagggaccgc ggaagcccga aagcgaaggc  
120  
atcaagttat cagcagatgt caaacatttt gtccccagat ttgccgggct caatgtggca  
180  
tggttagagt cctcagaagc atgtgtcttc cccagctctg cagccacata ctatccgttt  
240  
gttcaggaac caccagtgc agagcagaaa atatatactg aagacatggc ctttggagct  
300

tcaacttttc cacctcagta tttatcttct gagataactc ttcattccata tgcctattct  
 360  
 ccttataccc ttgactccac acagaatgtt tactcagtgc ctggctccca gtatctttat  
 420  
 aaccaaccca gttgttaccg aggttttcaa acagtgaagc atcgaaatga gaacacatgc  
 480  
 cctctccac aagaaatgaa agctctgttt aagaagaaaa cctatgatga gaaaaaacg  
 540  
 tatgatcagc aaaagtttga cagtgaagg gctgatggaa ctatatcatc tgagataaaa  
 600  
 tcagctagag gttcacatca tttgtccatt tacgctgaga atagtttgaa atcagatggt  
 660  
 taccataagc gaacagacag gaaatccaga atcattgcaa aaaatgtatc tacctccaaa  
 720  
 cctgagtttg aatttaccac actggacttt cctgaactgc aagggtgcaga gaacaatatg  
 780  
 tcagagatac agaagcaacc caagtgggga cctgtccact ctgtctctac cgacatttct  
 840  
 cttctaagag aagtagtaaa accagctgca gtgttatcaa aggggtgaaat agtgggtgaa  
 900  
 aataacccaa atgaatctgt aactgcta atgcccaccca attctccttc atgtacaaga  
 960  
 gagttatctt ggacaccaat ggggttatgtt gttcgacaga cattatctac agaactgtca  
 1020  
 gcagccctta aaaatgttac ttctatgata aacttaaaga ccattgcttc atcagcagat  
 1080  
 cctaaaaatg ttagtatacc atcttctgaa gctttatctt cggatccttc ctacaacaaa  
 1140  
 gaaaaacaca ttattcatcc taccctaaaag tctaaagcat cacaaggtag tgaccttgaa  
 1200  
 caaatgaag cctcaagaaa gaataagaaa aagaagaaa aatctacatc aaaatatgaa  
 1260  
 gtcttgacag ttcaagagcc tccaaggatt gaagatgccg aggaatttcc caacctggca  
 1320  
 gttgcatctg aaagaagaga cagaatagag acaccgaaat ttcaatctaa gcagcagcca  
 1380  
 caggataatt ttaaaaataa tgtaaagaag agccagcttc cagtgcagtt ggacttgggg  
 1440  
 ggcattgctga cagccctgga gaagaagcag cactctcagc atgcaaagca gtctccaaa  
 1500  
 ccagtggtag tctcagttgg agcagtgcca gtcctttcca aagaatgtgc ac  
 1552

&lt;210&gt; 3730

&lt;211&gt; 422

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3730

Met Ala Phe Gly Ala Ser Thr Phe Pro Pro Gln Tyr Leu Ser Ser Glu  
 1 5 10 15  
 Ile Thr Leu His Pro Tyr Ala Tyr Ser Pro Tyr Thr Leu Asp Ser Thr  
 20 25 30  
 Gln Asn Val Tyr Ser Val Pro Gly Ser Gln Tyr Leu Tyr Asn Gln Pro

```

      35              40              45
Ser Cys Tyr Arg Gly Phe Gln Thr Val Lys His Arg Asn Glu Asn Thr
  50              55              60
Cys Pro Leu Pro Gln Glu Met Lys Ala Leu Phe Lys Lys Lys Thr Tyr
  65              70              75              80
Asp Glu Lys Lys Thr Tyr Asp Gln Gln Lys Phe Asp Ser Glu Arg Ala
      85              90              95
Asp Gly Thr Ile Ser Ser Glu Ile Lys Ser Ala Arg Gly Ser His His
      100              105              110
Leu Ser Ile Tyr Ala Glu Asn Ser Leu Lys Ser Asp Gly Tyr His Lys
      115              120              125
Arg Thr Asp Arg Lys Ser Arg Ile Ile Ala Lys Asn Val Ser Thr Ser
      130              135              140
Lys Pro Glu Phe Glu Phe Thr Thr Leu Asp Phe Pro Glu Leu Gln Gly
      145              150              155              160
Ala Glu Asn Asn Met Ser Glu Ile Gln Lys Gln Pro Lys Trp Gly Pro
      165              170              175
Val His Ser Val Ser Thr Asp Ile Ser Leu Leu Arg Glu Val Val Lys
      180              185              190
Pro Ala Ala Val Leu Ser Lys Gly Glu Ile Val Val Lys Asn Asn Pro
      195              200              205
Asn Glu Ser Val Thr Ala Asn Ala Ala Thr Asn Ser Pro Ser Cys Thr
      210              215              220
Arg Glu Leu Ser Trp Thr Pro Met Gly Tyr Val Val Arg Gln Thr Leu
      225              230              235              240
Ser Thr Glu Leu Ser Ala Ala Pro Lys Asn Val Thr Ser Met Ile Asn
      245              250              255
Leu Lys Thr Ile Ala Ser Ser Ala Asp Pro Lys Asn Val Ser Ile Pro
      260              265              270
Ser Ser Glu Ala Leu Ser Ser Asp Pro Ser Tyr Asn Lys Glu Lys His
      275              280              285
Ile Ile His Pro Thr Gln Lys Ser Lys Ala Ser Gln Gly Ser Asp Leu
      290              295              300
Glu Gln Asn Glu Ala Ser Arg Lys Asn Lys Lys Lys Glu Lys Ser
      305              310              315              320
Thr Ser Lys Tyr Glu Val Leu Thr Val Gln Glu Pro Pro Arg Ile Glu
      325              330              335
Asp Ala Glu Glu Phe Pro Asn Leu Ala Val Ala Ser Glu Arg Arg Asp
      340              345              350
Arg Ile Glu Thr Pro Lys Phe Gln Ser Lys Gln Gln Pro Gln Asp Asn
      355              360              365
Phe Lys Asn Asn Val Lys Lys Ser Gln Leu Pro Val Gln Leu Asp Leu
      370              375              380
Gly Gly Met Leu Thr Ala Leu Glu Lys Lys Gln His Ser Gln His Ala
      385              390              395              400
Lys Gln Ser Ser Lys Pro Val Val Val Ser Val Gly Ala Val Pro Val
      405              410              415
Leu Ser Lys Glu Cys Ala
      420

```

&lt;210&gt; 3731

&lt;211&gt; 1704

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3731

tacgtgctca gaaacctcta cgtccccaac cggaaggtga agtcacctgtg ctgggcctcg  
60  
ctgaaccagt tggactctca cgttctgctg tgcttcgagg gaatcacaga tgcttcaagc  
120  
tgtgcagtgc tgcctccagc atcactgttc gtcaatagtc acccaggaat agaccggcct  
180  
ggcatgctct gcagtttccg gatccctggg gcctggctct gtgcctgggc cctgaatctc  
240  
caagcaaata actgcttcag tacaggcttg tctcggcggg tcctgttgac caacgtgggtg  
300  
acgggacacc ggcagtcctt tgggaccaac agtgatgtct tggcccagca gtttgctctc  
360  
atggctcctc tgctgtttaa tggctgccgc tctggggaaa tctttgccat tgatctgcgt  
420  
tgtggaaatc aaggcaaggg atggaaggcc acccgctgtt ttcattgattc agcagtgacc  
480  
tctgtgcgga tctccaaga tgagcaatac ctgatggctt cagacatggc tggaaagatc  
540  
aagctgtggg acctgaggac cacgaagtgc gtaaggcagt acgaaggcca cgtgaatgag  
600  
tacgcctacc tgcccttgca tgtgcacgag gaagaaggaa tcctgggtggc agtggggcag  
660  
gactgtaca cgagaatctg gagcctccac gatgcccgcc tactgagaac cataccctcc  
720  
ccgtaccctg cctccaaggc cgacattccc agtgtggcct tctcgtcgcg gctggggggc  
780  
tccccggggc cgccggggct gctcatggct gtcgggcagg acctttactg ttactcctac  
840  
agctaattct gcagggcaca gcccagagcc atgtggattt gacttacggg agtaaagcgt  
900  
aactttttac tgcattctaat gaggggtgtt taagtgcac tcagtgtaca cagatcccat  
960  
cctctggctg ctaggagaga agtgctgaat gttccgtgtg gagatgctca ggaaagtatt  
1020  
ttgagttaa ttgctggctg agagagcttg gaagtccttt tcataaaagg tacctctttc  
1080  
cttttcttat tgaattctta gaacttagtt aacctccct gccttttctt aacaaaaagg  
1140  
acttttctaa ggactgaaga ttggcaaaaa cgaaaagctt cttcctccaa gagcccattg  
1200  
aagaagccca gtgatgagac ggtgagatgg tttgagtcct cggtgctgg gtagcaggaa  
1260  
gaaagacctg catcctgcat ctgtacttgg ggaagccagc ggagaggacg gggaggttac  
1320  
ttctctaagt ttctgcagaa atattgaagg ctggagtgtg gaatccttaa acttggcctt  
1380  
ctcaaactca gcagcagatc tccgggatc tgctgttatt atccaaaggc gttggaagga  
1440  
aagatggatc ttcttacatg ctagaagttt taaacggctc ttaacatgcc tttgttcaag  
1500  
caccttcag aatgtaagg tccagcagctc tggtttctat tacggtgact tgaatgtcag  
1560



attcaagggc cggcgctcaa aggaaattgg ttttgacttt ttgtaatcta ggagcgacag  
 1620  
 ttcgtgagat gtttattcag tgtaaagag cctgtttttc taccaaaca taaaaccaag  
 1680  
 agaagaaaaa aaaaaaaaaa aaaa  
 1704

<210> 3732  
 <211> 281  
 <212> PRT  
 <213> Homo sapiens

<400> 3732  
 Tyr Val Leu Arg Asn Leu Tyr Val Pro Asn Arg Lys Val Lys Ser Leu  
 1 5 10 15  
 Cys Trp Ala Ser Leu Asn Gln Leu Asp Ser His Val Leu Leu Cys Phe  
 20 25 30  
 Glu Gly Ile Thr Asp Ala Ser Ser Cys Ala Val Leu Leu Pro Ala Ser  
 35 40 45  
 Leu Phe Val Asn Ser His Pro Gly Ile Asp Arg Pro Gly Met Leu Cys  
 50 55 60  
 Ser Phe Arg Ile Pro Gly Ala Trp Ser Cys Ala Trp Ser Leu Asn Ile  
 65 70 75 80  
 Gln Ala Asn Asn Cys Phe Ser Thr Gly Leu Ser Arg Arg Val Leu Leu  
 85 90 95  
 Thr Asn Val Val Thr Gly His Arg Gln Ser Phe Gly Thr Asn Ser Asp  
 100 105 110  
 Val Leu Ala Gln Gln Phe Ala Leu Met Ala Pro Leu Leu Phe Asn Gly  
 115 120 125  
 Cys Arg Ser Gly Glu Ile Phe Ala Ile Asp Leu Arg Cys Gly Asn Gln  
 130 135 140  
 Gly Lys Gly Trp Lys Ala Thr Arg Leu Phe His Asp Ser Ala Val Thr  
 145 150 155 160  
 Ser Val Arg Ile Leu Gln Asp Glu Gln Tyr Leu Met Ala Ser Asp Met  
 165 170 175  
 Ala Gly Lys Ile Lys Leu Trp Asp Leu Arg Thr Thr Lys Cys Val Arg  
 180 185 190  
 Gln Tyr Glu Gly His Val Asn Glu Tyr Ala Tyr Leu Pro Leu His Val  
 195 200 205  
 His Glu Glu Glu Gly Ile Leu Val Ala Val Gly Gln Asp Cys Tyr Thr  
 210 215 220  
 Arg Ile Trp Ser Leu His Asp Ala Arg Leu Leu Arg Thr Ile Pro Ser  
 225 230 235 240  
 Pro Tyr Pro Ala Ser Lys Ala Asp Ile Pro Ser Val Ala Phe Ser Ser  
 245 250 255  
 Arg Leu Gly Gly Ser Arg Gly Ala Pro Gly Leu Leu Met Ala Val Gly  
 260 265 270  
 Gln Asp Leu Tyr Cys Tyr Ser Tyr Ser  
 275 280

<210> 3733  
 <211> 515  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 3733

nngggccgag ctgtccgacg tgtcactgca gggacccgcc cggggtgggt ctgggctct  
 60  
 cgctaccgga gagggaggag aagggggagg ttaaagggga aggaccccg aagtgcctcc  
 120  
 tcctcagtcg gggagaggga gacgccgggg gcangtccat gcctcccgcg gcgtggttgg  
 180  
 tgcgtcccag gtgacgtcag aagcagcccg cccctgcctg gatggtgcgc cctgagtgac  
 240  
 gtcaggagca gagggccggag ctgtccatca gcaccaaagg ccgcgggscg gctcagggca  
 300  
 tggggcccgcg gttctggggc ggcccagacc ccggtcctg cgccttcccc tctctcaggc  
 360  
 nccagcccga gttcccgac gccgcgggac tggagtgcc gccggtgttg gacgtggagc  
 420  
 ggccgcccga ccgcgcgac accattctct ccggcccagc agcccccttc ctgcacgac  
 480  
 ggactttccc tggaccccag tcagttggag cctct  
 515

&lt;210&gt; 3734

&lt;211&gt; 171

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3734

Xaa	Gly	Arg	Ala	Val	Arg	Arg	Val	Thr	Ala	Gly	Thr	Arg	Pro	Gly	Trp
1				5					10					15	
Val	Ser	Gly	Ser	Arg	Tyr	Arg	Arg	Gly	Arg	Arg	Arg	Gly	Arg	Leu	Lys
			20					25					30		
Gly	Lys	Asp	Pro	Gly	Ser	Ala	Pro	Ser	Ser	Val	Arg	Glu	Arg	Glu	Thr
		35					40				45				
Pro	Gly	Ala	Xaa	Pro	Cys	Leu	Pro	Arg	Arg	Gly	Trp	Cys	Val	Pro	Gly
	50				55						60				
Asp	Val	Arg	Ser	Ser	Pro	Pro	Leu	Pro	Gly	Trp	Cys	Ala	Leu	Ser	Asp
65					70				75					80	
Val	Arg	Ser	Arg	Gly	Arg	Ser	Cys	Pro	Ser	Ala	Pro	Lys	Ala	Ala	Gly
			85					90					95		
Gly	Leu	Arg	Ala	Trp	Gly	Arg	Gly	Ser	Gly	Ala	Ala	Arg	Ala	Pro	Ala
		100					105					110			
Pro	Ala	Pro	Ser	Pro	Ser	Ser	Gly	Xaa	Ser	Pro	Ser	Ser	Arg	Thr	Pro
		115					120					125			
Arg	Asp	Trp	Ser	Ala	Ser	Arg	Cys	Trp	Thr	Trp	Ser	Gly	Ala	Ala	Thr
	130					135					140				
Ala	Pro	Thr	Pro	Phe	Ser	Pro	Ala	Gln	Gln	Pro	Pro	Ser	Ser	His	Asp
145				150				155						160	
Gly	Leu	Ser	Leu	Asp	Pro	Ser	Gln	Leu	Glu	Pro					
			165					170							

&lt;210&gt; 3735

&lt;211&gt; 2512

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3735

ngcaggttct tcggaaggct tgtagctcca aaatggatcg ccagagtgtt ctccatgtac  
60  
tgggcatatt gaaaaactcc aaatttctca aagtctgcct gcctgcttat gtggtaggga  
120  
tgatcactga acccatccct gacatccgaa accagtatcc agagcacata agcaacatca  
180  
tctccctcct ccaggacctt gtaagtgtct tccctgccag ctctgtgcag gaaacttcca  
240  
tgctggtttc cctcctgcc aacctcttta atgctctgag agcctctggt gttgacatag  
300  
aagaggaaac ggagaagaac ctggaaaagg tacagactat cattgaacat ctgcaggaaa  
360  
agaggcgaga gggcactttg agagtggata cctacactct agtgcagcct gaggcagaag  
420  
accatgttga gagctaccga accatgccca tttaccctac ctacaatgaa gtgcacttgg  
480  
atgagaggcc cttccttcgc cccaatatca tttctggaaa atacgacagc actgctatct  
540  
atctggatac ccacttcgag ctctctgcag aagatttcgt cagaccttta cgggaaggta  
600  
ttttggaact tctccaaagc tttgaagacc agggcctgag gaagagaaag tttgatgaca  
660  
tccgaatcta ctttgacacc aggattatca ccccatgtg ttcacatca ggcatagtct  
720  
acaaggtgca gtttgacaca aaaccactga agtttggtcg ctggcagaat tccaaacgat  
780  
tgctctatgg gtctttggta tgcattgcca aggacaactt cgagacattt ctttttgcca  
840  
ccgtatctaa cagggagcag gaagatctct gccgaggaat tgtccagctc tgcttcaatg  
900  
agcaaagcca acagctgcta gcagaggtcc agccctctga ctctttcctc atggtagaga  
960  
caactgcata ctttgaggcc tacaggcacg tccctggaagg actccaggag gtccaggagg  
1020  
aagatgttcc cttccagagg aatatcgtgg agtgtaactc tcatgtgaag gagccaaggt  
1080  
acttgcta at ggggggcaga tatgacttta ccccttaat agagaatcct tcagccactg  
1140  
gggaatttct aagaaatgtc gagggtttga gacatcccag aattaatgtc ttagatcctg  
1200  
gccagtggcc ctcaaaagaa gccctgaagc tggatgactc ccagatggaa gccttgagcgt  
1260  
ttgctctcac aagggaactg gctattattc aaggacctcc tggaacaggc aaaacctatg  
1320  
tgggtctaaa aattgttcag gccctcctaa ccaacgagtc tgtttgcaa attagcctcc  
1380  
agaagtcccc catcttggtt gtgtgttata ctaatcatgc tttggaccag tttctggaag  
1440  
gcatctacaa ttgtcagaag accagcattg tgcgggtggg tggaaggagc aacagtgaag  
1500  
tcctgaagca gttcacccta agggagctga ggaacaagcg ggaattccgc cgcaacctcc  
1560

ccatgcacct ccgaagggcc tacatgagta tcatgacaca gatgaaggag tcagagcaag  
 1620  
 agcttcatga aggagccaag accctggagt gcaccatgcg tgggtgccta cggaacagt  
 1680  
 acctgcagaa gtacatctca ccccgacct gggaaagtct catgaatgga ccagtgcagg  
 1740  
 atagtgaatg gatttgcttc cagcactgga agcattccat gatgctggag tggctaggtc  
 1800  
 ttggtgtcgg ttctttcacg caaagtgttt ctccagcagg acctgagaat acagcccagg  
 1860  
 cagaagggga tgaaggaggaa gaaggggagg aggagagtcc gctgatagag atcgagagg  
 1920  
 aagctgacct gattcaagca gaccgggtga ttgaggagga agaggtggtg aggccccagg  
 1980  
 ggcggaagaa ggaagagagt ggagcagacc aggagttggc taaaatgctt ctggccatga  
 2040  
 ggctagacca ttgtggcact gggacagcag ctggacagga gcaagccaca ggagagtggc  
 2100  
 agaccagcg caaccagaa aaagaaaatg aaaaaaagag tgaaggatga gcttcgcaaa  
 2160  
 ctgaacacca tgcctgcagc cgaggccaac gagatcgagg atgtttggca cctggacctc  
 2220  
 agttctcgct ggcagcttta taggtcttgg ctacagttgt accaggtga cccccgccc  
 2280  
 gggaagatcc tcagctatga acgccagtac cgcacatcag cagaaagaat ggccgagctg  
 2340  
 agactccagg aagacctgca cattcttaaa gatgccagg ttgtaggaat gacaaccaca  
 2400  
 ggtgctgcca aataccgcca gatcctacag aaggtggagc cgaggattgt catagtggaa  
 2460  
 gaagctgagg aagtccttga ggccataacc attgccacat tgagcaaagc tt  
 2512

&lt;210&gt; 3736

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3736

Thr	Ile	Val	Ala	Leu	Gly	Gln	Gln	Leu	Asp	Arg	Ser	Lys	Pro	Gln	Glu
1				5				10						15	
Ser	Gly	Arg	Pro	Ser	Ala	Thr	Gln	Lys	Lys	Lys	Met	Lys	Lys	Arg	Val
			20					25						30	
Lys	Asp	Glu	Leu	Arg	Lys	Leu	Asn	Thr	Met	Pro	Ala	Ala	Glu	Ala	Asn
			35				40						45		
Glu	Ile	Glu	Asp	Val	Trp	His	Leu	Asp	Leu	Ser	Ser	Arg	Trp	Gln	Leu
			50			55				60					
Tyr	Arg	Leu	Trp	Leu	Gln	Leu	Tyr	Gln	Ala	Asp	Thr	Pro	Pro	Gly	Lys
65					70					75				80	
Ile	Leu	Ser	Tyr	Glu	Arg	Gln	Tyr	Arg	Thr	Ser	Ala	Glu	Arg	Met	Ala
					85				90					95	
Glu	Leu	Arg	Leu	Gln	Glu	Asp	Leu	His	Ile	Leu	Lys	Asp	Ala	Gln	Val
			100					105					110		
Val	Gly	Met	Thr	Thr	Thr	Gly	Ala	Ala	Lys	Tyr	Arg	Gln	Ile	Leu	Gln

115                      120                      125  
 Lys Val Glu Pro Arg Ile Val Ile Val Glu Glu Ala Ala Glu Val Leu  
 130                      135                      140  
 Glu Ala His Thr Ile Ala Thr Leu Ser Lys Ala  
 145                      150                      155

<210> 3737  
 <211> 1046  
 <212> DNA  
 <213> Homo sapiens

<400> 3737  
 ngtgctgtgg ctgcaggctg gcagggtggca gcccctatgcc cagggtgcctg cgtatgctac  
 60  
 aatgagccca aggtgacgac aagctgcccc cagcagggcc tgcaggctgt gcccgtgggc  
 120  
 atccctgctg ccagccagcg catcttctctg cacggcaacc gcatctcgca tgtgccagct  
 180  
 gccagcttcc gtgcctgccc caacctcacc atcctgtggc tgcactcgaa tgtgtggcc  
 240  
 cgaattgatg cggctgcctt cactggcctg gccctcctgg gagcactgga cctcagcgat  
 300  
 aatgcacagc tccggtctgt ggacctgcc acattccacg gcctggggccg cctacacacg  
 360  
 ctgcacctgg accgctgagg cctgcaggag ctggggcccg ggctgttccg cggcctggct  
 420  
 gccctgcagt acctctacct gcaggacaac gcgctgcagg cactgcctga tgacaccttc  
 480  
 cgcgacctgg gcaacctcac acacctcttc ctgcacggca accgcatctc cagcgtgccc  
 540  
 gagcgcgctt tccgtgggct gcacagcctc gaccgtctcc tactgcacca gaaccgctg  
 600  
 gcccatgtgc acccgcattg cttccgtgac cttggccgccc tcatgacact ctatctgttt  
 660  
 gccacaatc tatcagcgct gcccaactgag gccctggccc ccctgcgtgc cctgcagtac  
 720  
 ctgaggctca acgacaaccc ctgggtgtgt gactgccggg cacgcccact ctgggcctgg  
 780  
 ctgcagaagt tccgcggctc ctctccgag gtgccctgca gcctcccgca acgcctggct  
 840  
 ggccgtgacc tcaaacgcct agctgccaat gacctgcagg gctgcgctgt ggccaccggc  
 900  
 ccttaccatc ccatctggac cggcagggcc accgatgagg agccgctggg gcttcccaag  
 960  
 tgctgccagc cagatgccgc tgacaaggcc tcagtactgg agcctggaag accagcttct  
 1020  
 gcaggcaatg cgctgaaggg acgcgt  
 1046

<210> 3738  
 <211> 348  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 3738

Xaa Ala Val Ala Ala Gly Trp Gln Val Ala Ala Pro Cys Pro Gly Ala  
 1 5 10 15  
 Cys Val Cys Tyr Asn Glu Pro Lys Val Thr Thr Ser Cys Pro Gln Gln  
 20 25 30  
 Gly Leu Gln Ala Val Pro Val Gly Ile Pro Ala Ala Ser Gln Arg Ile  
 35 40 45  
 Phe Leu His Gly Asn Arg Ile Ser His Val Pro Ala Ala Ser Phe Arg  
 50 55 60  
 Ala Cys Arg Asn Leu Thr Ile Leu Trp Leu His Ser Asn Val Leu Ala  
 65 70 75 80  
 Arg Ile Asp Ala Ala Ala Phe Thr Gly Leu Ala Leu Leu Gly Ala Leu  
 85 90 95  
 Asp Leu Ser Asp Asn Ala Gln Leu Arg Ser Val Asp Pro Ala Thr Phe  
 100 105 110  
 His Gly Leu Gly Arg Leu His Thr Leu His Leu Asp Arg Cys Gly Leu  
 115 120 125  
 Gln Glu Leu Gly Pro Gly Leu Phe Arg Gly Leu Ala Ala Leu Gln Tyr  
 130 135 140  
 Leu Tyr Leu Gln Asp Asn Ala Leu Gln Ala Leu Pro Asp Asp Thr Phe  
 145 150 155 160  
 Arg Asp Leu Gly Asn Leu Thr His Leu Phe Leu His Gly Asn Arg Ile  
 165 170 175  
 Ser Ser Val Pro Glu Arg Ala Phe Arg Gly Leu His Ser Leu Asp Arg  
 180 185 190  
 Leu Leu Leu His Gln Asn Arg Val Ala His Val His Pro His Ala Phe  
 195 200 205  
 Arg Asp Leu Gly Arg Leu Met Thr Leu Tyr Leu Phe Ala Asn Asn Leu  
 210 215 220  
 Ser Ala Leu Pro Thr Glu Ala Leu Ala Pro Leu Arg Ala Leu Gln Tyr  
 225 230 235 240  
 Leu Arg Leu Asn Asp Asn Pro Trp Val Cys Asp Cys Arg Ala Arg Pro  
 245 250 255  
 Leu Trp Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser Ser Glu Val Pro  
 260 265 270  
 Cys Ser Leu Pro Gln Arg Leu Ala Gly Arg Asp Leu Lys Arg Leu Ala  
 275 280 285  
 Ala Asn Asp Leu Gln Gly Cys Ala Val Ala Thr Gly Pro Tyr His Pro  
 290 295 300  
 Ile Trp Thr Gly Arg Ala Thr Asp Glu Glu Pro Leu Gly Leu Pro Lys  
 305 310 315 320  
 Cys Cys Gln Pro Asp Ala Ala Asp Lys Ala Ser Val Leu Glu Pro Gly  
 325 330 335  
 Arg Pro Ala Ser Ala Gly Asn Ala Leu Lys Gly Arg  
 340 345

&lt;210&gt; 3739

&lt;211&gt; 1252

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3739

tcacgccattat cttcgatcatt ttctgggctg agcttttttg acaagggtgct gtgccagtct  
 60

acaccctca gccagctgtt cttggaggtc ctgcccctgg gacttgctcg gctcatccag  
 120  
 agtgaggagg gcctggagat gctcattcaa tgagcgggag gcacctctcc cttcccgtaa  
 180  
 cttctccctt aactgggtca gctctcggtc ctgagagtga accaggactt tatattgctg  
 240  
 tattttctt gtcggttggc caggaagccg gccagttgag ttagaaaaca tctctctttg  
 300  
 aggtttctga actgctgttt gttctctgcc aactgggggc gcaatttctc gttgatttct  
 360  
 agaattgtca tctctgcctt ctgctggac aaagggcccg ctgataccac catgctgacg  
 420  
 tttgtggcag aagaggtgga gtcagggact tactgttggtg aaaaatgtga tcaactccca  
 480  
 cagcacttta ggatccttca ccacaaaaac aaggttcgag gtgcctcaac tcagagctga  
 540  
 aagcactgcc agtagctcag actctgataa gaggtaggta gattgtggcc agcgtgccag  
 600  
 gtaaccgtct tgatccatag gtcacattt gatcccaact ggcggtgct tcttggcatt  
 660  
 aactttggat tccaaccag taaatcttag caagatctga gtttctccag gtatgatatt  
 720  
 attttgtttg accatcctta tcttcaaggg ctgttggtatc tggcagctct tgatgtcagc  
 780  
 ccacaccatg tgaggctgct cttggtgcac cgaatgggga agtttctaca tcagggcctc  
 840  
 ggagaatcca ctggaagccc tggacagtgg gaggcagcgg caccctcagt gtggaggcca  
 900  
 agagcacaca gcaactgaagc tccaggacac cctcaggagg acggcaaggg acaattggct  
 960  
 ggtgagagcc cgggtcaccg ggaaccttcg cctgggtcta aacaggattt gccttcagat  
 1020  
 tgcttcagaa acgctgggtg gacttcgcgt aacttcccat tcacagggca gccggcagcc  
 1080  
 gcgcgcgcgc gcctcggccc agctcctggc gccgcagatc gcccgctccg cgttcccaaa  
 1140  
 agccccgcgc tcgctcagaa gctcgggcag cctcgcgacc ctcacctacc cctcccaata  
 1200  
 tcgctgctgt ctcaaccgcc gccagccca tagcctgcgg ccagctggat cc  
 1252

&lt;210&gt; 3740

&lt;211&gt; 139

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3740

Met Gly Lys Phe Leu His Gln Gly Leu Gly Glu Ser Thr Gly Ser Pro  
 1 5 10 15  
 Gly Gln Trp Glu Ser Ala Ala Pro Pro Val Trp Arg Pro Arg Ala His  
 20 25 30  
 Ser Thr Glu Ala Pro Gly His Pro Gln Glu Asp Gly Lys Gly Gln Leu  
 35 40 45  
 Ala Gly Glu Ser Pro Gly His Arg Glu Pro Ser Pro Gly Ser Lys Gln

```

      50              55              60
Asp Leu Pro Ser Asp Cys Leu Arg Asn Ala Gly Trp Thr Ser Arg Asn
65              70              75              80
Phe Pro Phe Thr Gly Gln Pro Ala Ala Ala Pro Pro Arg Leu Gly Pro
      85              90              95
Ala Pro Gly Ala Ala Asp Arg Pro Ser Arg Val Pro Lys Ser Pro Ala
      100              105              110
Leu Ala Gln Lys Leu Gly Gln Pro Arg Asp Pro His Leu Pro Leu Pro
      115              120              125
Ile Ser Pro Leu Ser Gln Pro Pro Pro Ser Pro
      130              135

```

<210> 3741  
 <211> 562  
 <212> DNA  
 <213> Homo sapiens

```

<400> 3741
cagacagcaa gcgacggccc agctcctcaa ggccacctcc gacctcggcg gggtaggggca
60
gtcgtgtcca ctgtggggat ccacgtcctg actaaccttg tgttcctaga aatccctcac
120
cggcagatcg gtgcctcctg aatcccaccc aaaattccca ctgggaatgt gttcctgaaa
180
gagctgcca ggcttgagaa agcctctttt cagaccaaac ttcgtattca aagctcaaaa
240
agaactgcac acaattagga cagtcataca agatgctgcc cctaactctg ccacaatctg
300
cgagaaggga ggcggggctt ccgagggcaa agtgcccctg ggaagggatc cgcagggaa
360
agctttgaaa ggaccacagc cccagccac gaggggagca agcacgagcc ggggagagag
420
ctctgcgtc gcacacggga ttcattctcg ccgcctctgc ccgtttccag caacacggag
480
ccaggcgga acagtttctc cagcccatc gctccccga ctcttctct cagggcacgg
540
ctgggctgct ttcattcacg gt
562

```

<210> 3742  
 <211> 138  
 <212> PRT  
 <213> Homo sapiens

```

<400> 3742
Met Gly Trp Arg Asn Cys Phe Arg Leu Ala Pro Cys Cys Trp Lys Arg
1              5              10              15
Ala Glu Ala Ala Glu Met Asn Pro Val Cys Glu Arg Arg Ala Leu Ser
      20              25              30
Pro Ala Arg Ala Cys Ser Pro Arg Gly Trp Gly Leu Trp Ser Phe Gln
      35              40              45
Ser Cys Ser Leu Arg Ile Pro Ser Gln Gly His Phe Ala Leu Gly Ser
      50              55              60
Pro Ala Ser Leu Leu Ala Asp Cys Gly Arg Ile Arg Gly Ser Ile Leu

```



```

65          70          75          80
Tyr Asp Cys Pro Asn Cys Val Gln Phe Phe Leu Ser Phe Glu Tyr Glu
          85          90          95
Val Trp Ser Glu Lys Arg Leu Ser Gln Ala Trp Ala Ala Leu Ser Gly
          100          105          110
Thr His Ser Gln Trp Glu Phe Trp Val Gly Phe Arg Arg His Arg Ser
          115          120          125
Ala Gly Glu Gly Phe Leu Gly Thr Gln Gly
          130          135

```

&lt;210&gt; 3743

&lt;211&gt; 468

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3743

```

nntcatgagc cttcttaciaa gctccatttt ggcaaggcgc tgacaatggc ggaggctgaa
60
ggcaatgcaa gctgcacagt cagtctaggg ggtgccata tggcagagac ccacaaagcc
120
atgatcctgc aactcaatcc cagtgagaac tgcacctgga caatagaaag accagaaaac
180
aaaagcatca gaattatctt ttcctatgtc cagcttgatc cagatggaag ctgtgaaagt
240
gaaaacatta aagtctttga cggaacctcc agcaatgggc ctctgctagg gcaagtctgc
300
agtaaaaaacg actatgttcc tgtatttgaa tcatcatcca gtacattgac gtttcaaata
360
gttactgact cagcaagaat tcaaagaact gtctttgtgt tctagtagtt cttatttcct
420
aacatcttta ttccaaagtg tggcggttac ctggatccct ggaaggat
468

```

&lt;210&gt; 3744

&lt;211&gt; 134

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3744

```

Xaa His Glu Pro Ser Tyr Lys Leu His Phe Gly Lys Ala Leu Thr Met
1          5          10          15
Ala Glu Ala Glu Gly Asn Ala Ser Cys Thr Val Ser Leu Gly Gly Ala
          20          25          30
Asn Met Ala Glu Thr His Lys Ala Met Ile Leu Gln Leu Asn Pro Ser
          35          40          45
Glu Asn Cys Thr Trp Thr Ile Glu Arg Pro Glu Asn Lys Ser Ile Arg
          50          55          60
Ile Ile Phe Ser Tyr Val Gln Leu Asp Pro Asp Gly Ser Cys Glu Ser
65          70          75          80
Glu Asn Ile Lys Val Phe Asp Gly Thr Ser Ser Asn Gly Pro Leu Leu
          85          90          95
Gly Gln Val Cys Ser Lys Asn Asp Tyr Val Pro Val Phe Glu Ser Ser
          100          105          110
Ser Ser Thr Leu Thr Phe Gln Ile Val Thr Asp Ser Ala Arg Ile Gln

```

115  
Arg Thr Val Phe Val Phe  
130

120

125

<210> 3745  
<211> 345  
<212> DNA  
<213> Homo sapiens

<400> 3745  
acgcgtcgaa aggggaagagc agaggacgct ggctctcatg gcaggatggt gtgtgtacgg  
60  
gacgctgtgg gagaggaaaa cagccacatg tgggctggct gcttgaggga gacacatgag  
120  
ccgtgaacac gtctcccccg gccgctccct ggttccatgc gtgctcgtct tgggcaccac  
180  
gagaacacag ccatgcagcc cccgatcctg cagccacagc cacggcatcg cctggtcgga  
240  
tgcagcatct gctccggacg cctctcgctg tcggtgccag gcttgccagg ccaagccccg  
300  
attctcaggg gcggcaggag gtgggaggca cgtttgggcg gatcc  
345

<210> 3746  
<211> 102  
<212> PRT  
<213> Homo sapiens

<400> 3746  
Met Ala Gly Trp Cys Val Tyr Gly Thr Leu Trp Glu Arg Lys Thr Ala  
1 5 10 15  
Thr Cys Gly Leu Ala Ala Trp Arg Arg His Met Ser Arg Glu His Val  
20 25 30  
Ser Pro Gly Arg Ser Leu Val Pro Cys Val Leu Val Leu Gly Thr Thr  
35 40 45  
Arg Thr Gln Pro Cys Ser Pro Arg Ser Cys Ser His Ser His Gly Ile  
50 55 60  
Ala Trp Ser Asp Ala Ala Ser Ala Pro Asp Ala Ser Arg Cys Arg Cys  
65 70 75 80  
Gln Ala Cys Gln Ala Lys Pro Arg Phe Ser Gly Ala Ala Gly Gly Gly  
85 90 95  
Arg His Val Trp Ala Asp  
100

<210> 3747  
<211> 800  
<212> DNA  
<213> Homo sapiens

<400> 3747  
cctaggcgag gcgctggcgc tggggctctgg ctggcgatcat gcgtgccacg ctctcctcta  
60  
cgcgccggac cctgggatgc tcttcggccg catcccgtg cgctacgcca tactggtgag  
120

aagggggcgc gcccgccac tttctgcctg agccccgcac cctctctggt ggtctcctct  
180  
ggggcgcccc tgccaatccc cgcttccccc tcccgagat gcagatgcgc ttcgatggac  
240  
gcctgggctt ccccggcgga ttcgtggaca cgcaggacag aagcctagag gacgggctga  
300  
accgcgagct gcgcgaggag ctggggcgaag cggctgccgc tttccgctg gagcgactg  
360  
actaccgcag ctcccacgtc ggggtcaggg ccacgcgttg tggccactt ctatgccaa  
420  
cgtctgacgc tcgaggagct gttggctgtg gaggccggcg caacacgcgc caaggaccac  
480  
gggctggagg tgggaccagc ctgggactct gtccctttcc caatttcctc ttctcccaaa  
540  
gctttctctc cccaagaaa gcacccctgg agaaaagtct ttgccctct gaccttgccc  
600  
tctccccagc tttcttggtg gagttgggat cgtgatcatc tatactctga attagtactg  
660  
ccaacctggg ctttctgtaa aggtctttcc caccctttac caggagagat cctttctaga  
720  
acacactcat ccatgtctct ctgctgttcc ctattgacag tgtgatagat tatcacatta  
780  
tctaggtgtg gcaacctagg  
800

&lt;210&gt; 3748

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3748

Met Gln Met Arg Phe Asp Gly Arg Leu Gly Phe Pro Gly Gly Phe Val  
1 5 10 15  
Asp Thr Gln Asp Arg Ser Leu Glu Asp Gly Leu Asn Arg Glu Leu Arg  
20 25 30  
Glu Glu Leu Gly Glu Ala Ala Ala Phe Arg Val Glu Arg Thr Asp  
35 40 45  
Tyr Arg Ser Ser His Val Gly Val Arg Ala Thr Arg Cys Gly Pro Leu  
50 55 60  
Leu Cys Gln Ala Ser Asp Ala Arg Gly Ala Val Gly Cys Gly Gly Arg  
65 70 75 80  
Arg Asn Thr Arg Gln Gly Pro Arg Ala Gly Gly Gly Thr Ser Leu Gly  
85 90 95  
Leu Cys Pro Phe Pro Asn Phe Leu Phe Ser Gln Ser Phe Leu Ser Pro  
100 105 110  
Lys Lys Ala Ser Leu Glu Lys Ser Leu Cys Pro Ser Asp Leu Ala Leu  
115 120 125  
Ser Pro Ala Phe Leu Val Glu Leu Gly Ser  
130 135

&lt;210&gt; 3749

&lt;211&gt; 648

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3749

cgcgccccct gggaggatcc tgccaagtgg gtgatggaca catatccatg ggcagccagc  
 60  
 ccacaacagc acgagtggcc tcccctgctg cagttacggc ctgaggatgt cggcttcgac  
 120  
 ggctactcca tgcctcgga gggatcgaca agcaagcaga tgccccccag tgatgctgaa  
 180  
 ggtgaccgc tgatgaacat gctgatgagg ctgcaggagg cagccaacta ctccagcccc  
 240  
 cagagctatg acagcgactc caacagcaac agccatcacg atgacatctt ggactcctct  
 300  
 ttggagtcca ctctgtgaca gggggccgga gccagcgcc ctctcttct cctcaccgca  
 360  
 ttccacctgc atccccaca tcacctgaa gatgacttcc tgagccagcc cccagccaca  
 420  
 gccttagagc tgcgggaaca ccgagacccc cgtccttca gcctcgacct ggggtgcaggc  
 480  
 atcccgggcc agctgcctgc ggaccgcttc cttccacagc gagaactgca ctaccttctg  
 540  
 ttgtacttta attattgttt tgccttgttg ctgtgacctc cctaagacac tgaagatact  
 600  
 tctcgggaaa ggatcatcgc cgttgaaatg aaaaaaaaaa aaaaaaaaaa  
 648

&lt;210&gt; 3750

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3750

Arg	Ala	Pro	Trp	Glu	Asp	Pro	Ala	Lys	Trp	Val	Met	Asp	Thr	Tyr	Pro
1				5					10					15	
Trp	Ala	Ala	Ser	Pro	Gln	Gln	His	Glu	Trp	Pro	Pro	Leu	Leu	Gln	Leu
		20						25					30		
Arg	Pro	Glu	Asp	Val	Gly	Phe	Asp	Gly	Tyr	Ser	Met	Pro	Arg	Glu	Gly
		35					40					45			
Ser	Thr	Ser	Lys	Gln	Met	Pro	Pro	Ser	Asp	Ala	Glu	Gly	Asp	Pro	Leu
	50				55						60				
Met	Asn	Met	Leu	Met	Arg	Leu	Gln	Glu	Ala	Ala	Asn	Tyr	Ser	Ser	Pro
65					70				75					80	
Gln	Ser	Tyr	Asp	Ser	Asp	Ser	Asn	Ser	Asn	Ser	His	His	Asp	Asp	Ile
			85					90						95	
Leu	Asp	Ser	Ser	Leu	Glu	Ser	Thr	Leu							
			100					105							

&lt;210&gt; 3751

&lt;211&gt; 554

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3751

gcgcgcctgt ctgccctcgc acgtgcgctg gcagggccgc cgcctcgccc tcaccatgga  
 60

cctggccccg ctgctgctcg cggctcggtc gccccgagcg gggccaaggg cgtttcctac  
 120  
 acgcagggcc agagtccgga gccgcggacc cgcgaggtat ttctactacg tggaccacca  
 180  
 gggccagctt ttcttgatg attccaaaat gaagaatttc atcacctgct tcaaagaccc  
 240  
 gcagttcctg gtcaccttct tctccgcct gagaccaac cgcagcgggc gctacgaggc  
 300  
 cgctttcccc ttctctcgc cctgcggcag agagcgcaac ttctgctgct gcgaggaccg  
 360  
 gccggtggtc ttacgcacc tgctgaccgc ggaccacggg cctccgcgcc tctctactg  
 420  
 cggcgggtggc gaggccctgg ccgtgccctt cgagccggcg cgctgctgc ccctggccgc  
 480  
 caacggggcg ctgtaccacc cggcgccgga gcgtgcgggc ggcgtgggccc tgggtgcgcc  
 540  
 ttcgcccctg gccc  
 554

<210> 3752

<211> 66

<212> PRT

<213> Homo sapiens

<400> 3752

Ala	Arg	Leu	Ser	Ala	Leu	Ala	Arg	Ala	Leu	Ala	Gly	Pro	Pro	Pro	Arg
1				5				10						15	
Pro	His	His	Gly	Pro	Gly	Pro	Ala	Ala	Ala	Arg	Gly	Ser	Val	Ala	Pro
			20				25						30		
Ser	Gly	Ala	Lys	Gly	Val	Ser	Tyr	Thr	Gln	Gly	Gln	Ser	Pro	Glu	Pro
		35				40					45				
Arg	Thr	Arg	Glu	Val	Phe	Leu	Leu	Arg	Gly	Pro	Pro	Gly	Pro	Ala	Phe
	50					55					60				
Pro	Gly														
65															

<210> 3753

<211> 1426

<212> DNA

<213> Homo sapiens

<400> 3753

nnaattcgga acaggtgcag tacttgctct aactttgccg cagctgcctc ccttctctcg  
 60  
 gaaccactc tcctaacca cccccgagag gcggagagaa tgtgggagca cttcagagag  
 120  
 gcctaggctc cggagatcgg gccatctggg ctctgaaagc aaattagttt tccaactcat  
 180  
 gtctggctcc ggcgttacc agacgcctgg aaggtccttc ctgcagtctg atcaccattt  
 240  
 ttctgctgc actgaccaat cagctcccct tggccttcaa cctcgggaat gatggattag  
 300  
 gggagtctag aaatggacga agccctagaa acgcagctga agacgagcag aggacgcttc  
 360

tcggctacag aatccctccc caccttggag ctcttatctc aggtggacat ggactgcagg  
 420  
 gtccacatgc gacccatcgg cctgacgtgg gtgctgcaac tgaccttggc atggatcctg  
 480  
 ctagaagcct gtggagggag cgcgccactc caagccaggt cccagcaaca ccatgggctg  
 540  
 gcagctgac tgggcaaagg caagctgcac ctggcaggac cttgttgtcc ctgagagatg  
 600  
 gacacaacag agacatcggg ccttgaaac catccagaac gctgtggagt gccgagccct  
 660  
 gaatgcgaat ccttcctgga acacctccaa cgtgcccttc gcagtcgctt ccgctgcgg  
 720  
 ctattggggg taagccaggc acagcgcctc tgcgaggagc tctgccaggc ctggttcgcc  
 780  
 aactgcgaag atgatcac ctgcggcccg acttggtcc cactctcaga aaaaaggggc  
 840  
 tgtgagccca gctgccttac ctatggacag accttcgcag acgggacgga cctttgtcgc  
 900  
 tcggctctgg gccacgcct accggtggct gctcctggag cccgtcactg cttcaacatc  
 960  
 tccatctcgg cggtacctcg tcccagacca ggacgacggg gccgggaagc tccctcccg  
 1020  
 cgttcccga gccctgcac ctccatcctg gacgtgcgg gcagcgggag tggcagtgga  
 1080  
 agcggcagcg gccctagcg gacgcgtggc cctgagttgg gggagcgacc cttccccag  
 1140  
 ccccgccct caggacacc agaaccac cctcgtcct ctcgccctc tgtaatagtt  
 1200  
 ttgagatgtc tgtccctcct cctggagct ccagagacc accctctcc aggttatccc  
 1260  
 agaaatgacc caactctctc acttttcct ctccccttg aataaagtcg ccagctaaaa  
 1320  
 aaaaagtcca tgtccacctg agataagagc tgttggtgg attgggggt ccacatgcga  
 1380  
 cccatcggcc tgacgtgggt gctgcaactg acctcgcat ggatcc  
 1426

&lt;210&gt; 3754

&lt;211&gt; 261

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3754

Met	Asp	Glu	Ala	Leu	Glu	Thr	Gln	Leu	Lys	Thr	Ser	Arg	Gly	Arg	Phe
1				5					10					15	
Ser	Ala	Thr	Glu	Ser	Leu	Pro	Thr	Leu	Glu	Leu	Leu	Ser	Gln	Val	Asp
			20					25					30		
Met	Asp	Cys	Arg	Val	His	Met	Arg	Pro	Ile	Gly	Leu	Thr	Trp	Val	Leu
		35					40				45				
Gln	Leu	Thr	Leu	Ala	Trp	Ile	Leu	Leu	Glu	Ala	Cys	Gly	Gly	Ser	Arg
	50					55				60					
Pro	Leu	Gln	Ala	Arg	Ser	Gln	Gln	His	His	Gly	Leu	Ala	Ala	Asp	Leu
65				70						75				80	
Gly	Lys	Gly	Lys	Leu	His	Leu	Ala	Gly	Pro	Cys	Cys	Pro	Ser	Glu	Met

```

      85              90              95
Asp Thr Thr Glu Thr Ser Gly Pro Gly Asn His Pro Glu Arg Cys Gly
      100              105              110
Val Pro Ser Pro Glu Cys Glu Ser Phe Leu Glu His Leu Gln Arg Ala
      115              120              125
Leu Arg Ser Arg Phe Arg Leu Arg Leu Leu Gly Val Arg Gln Ala Gln
      130              135              140
Pro Leu Cys Glu Glu Leu Cys Gln Ala Trp Phe Ala Asn Cys Glu Asp
      145              150              155              160
Asp Ile Thr Cys Gly Pro Thr Trp Leu Pro Leu Ser Glu Lys Arg Gly
      165              170              175
Cys Glu Pro Ser Cys Leu Thr Tyr Gly Gln Thr Phe Ala Asp Gly Thr
      180              185              190
Asp Leu Cys Arg Ser Ala Leu Gly His Ala Leu Pro Val Ala Ala Pro
      195              200              205
Gly Ala Arg His Cys Phe Asn Ile Ser Ile Ser Ala Val Pro Arg Pro
      210              215              220
Arg Pro Gly Arg Arg Gly Arg Glu Ala Pro Ser Arg Arg Ser Arg Ser
      225              230              235              240
Pro Arg Thr Ser Ile Leu Asp Ala Ala Gly Ser Gly Ser Gly Ser Gly
      245              250              255
Ser Gly Ser Gly Pro
      260

```

&lt;210&gt; 3755

&lt;211&gt; 3149

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3755

```

atgaatctct gttccaaatg ctttgcctgat ttccaaaaga aacagccaga cgatgattcc
60
gctccaagta caagtaacag ccaatcagat ttgttttccg aagagaccac cagtgacaac
120
aacaatacct cgataaccac gccaaactctt agtcccagcc agcagccgct tccgacagaa
180
ctgaatgtaa cttcaccgag taaagaggag tgtgggcat gcacagacac agctcatgtc
240
tcattaatca caccaacaaa aagatcctgt ggtacagatt cacagtctga gaatgaggct
300
tcaccagtaa aacggccacg actacttgag aatacgaac ggtccgagga aaccagtcga
360
tctaaacaga agagtcgacg tcggtgcttc cagtgcacaa ccaaactgga gctggtgcag
420
caggaattgg gatcgtgtcg ctgcggttat gtgttctgta tgttacatcg cctccccgag
480
cagcagact gcacattcga ccacatgggc cgtggccggg aggaagccat catgaaaatg
540
gtgaagctgg accggaaagt ggggcgctcc tgccagcgca tcggggaggg gtgctcctga
600
aggccaggca tggccaccac gtgacgtgtg tcttagttca ctaatgtag ccttatttag
660
gacaaagtca gccagacacc ttgtactggg cagcgtcag actgcagcca gtccgtttcc
720

```

tttcttttagc cagccatcct ggtactgtag tttaggggtt gatggtggtt gaaattgatt  
780  
tctggctggg tactaagggt cctgctagcc attgtataaa attaaaacat gaagaatatt  
840  
ttttttttga gcatggctag tggatttaaa acaacacata cctgtcactg ctggaggtcaa  
900  
acttataaaa agccttaagt ggaaagtgtt ccagacggag actctgagtt aatagaggag  
960  
tagaagctgg tgttaaagtt cccacgacgc acatggcttt gccagaaact ctgtttaatg  
1020  
atcggccttt cacctcttca cttatcctta gtcccagtag ccaggatacc tgatggccac  
1080  
gtgtgccttg gccacgggag gctgctgaga ttggccacgt ggctgggctg ggtggtggcc  
1140  
tcactctccc acagagctgg aaatgggggg tgggggacag attcttacgg aaattttttt  
1200  
acctgacttg ctatgaaaaa actcatcaca caagaagaga aacagtaacc tcactttgaa  
1260  
aattagctcc actcaagact agtccacgaa cgagaccgc cttttctaca caggatccaa  
1320  
ggtcacgaga agcagccaga gtgccccgcc tccgccggct ctggtctgcc attcgccagt  
1380  
gcagggatct ggcacggacc agatgtggcg aatggcagca cagcgcggtg gctgggtctg  
1440  
cacactggcc tctgcagcca gatttctata ttgggagttt tttaaaaaga catttcatag  
1500  
ccaacaagaa tcagtagaag tgctgggagc agcagctggg gaagctgccg cccacgggct  
1560  
ctgccccttc cagctggagc cgcccggtgcc tccaggggcc aagaggatga tgtcgtggcc  
1620  
tcattctctg tttctatgca gcccatagt ccaaggacac ccagtcaca tctaccatat  
1680  
agcaagttta gtaagggaag gcagcatagc tcccaggac agtgggtttg gatctgtcta  
1740  
gaacagcggg ttgtggctgt ggcccagctc cgagagtgat atttgctctg gtaggtgagg  
1800  
gcctgagggt acatttctcc acctgtgccc cctcatgttc acagaggatt tcagcagctg  
1860  
caactgcgca cgccagggtg ggaagggtg ggggtggcct ggttgcccca tgttaggaaa  
1920  
tcactaccag tcagggtggg ctggggctgg gtggacagga tcaggattcc cttgaaagcc  
1980  
caggcagggt gagcagtcct agtggctcta gtgccgcac agatccaggt gggtgagggc  
2040  
aggaggcccc tgcggaggca gcgtggatct gccacacat aggctactgg aatagtttaa  
2100  
cccagcaact ttccttttta taaaacaaca aatggttcaa ctctgtctgc aaattaacag  
2160  
ctgaacacct gcaactgcaa atgttttttg atccgacgta ctgaaatagg aagtcatgct  
2220  
cttccccacc tccaccacc agagtggaa cccgtgcaaa atccccagcc ttaattcttg  
2280  
cttcaggacc cagaccggtg tcttgcctta gggcaacca gggcagagg gccaggctctg  
2340



cccagcggtt accactgctg tcaagccaca gcccttggcc accatacggg ccatacctcag  
 2400  
 tgaggcagcc ccccataggg ttccgccaag ctctgggtccc gaagaggctg tgcgagccct  
 2460  
 tcccggccct ccccgaggcc ccccgccccc tcctctgcct gctgcgtgga ggcagccatg  
 2520  
 ggaaggagcc caggggagct ggccctggggg agcgaagccc atgttcgctt cctgacttag  
 2580  
 agctgggggg ggtggggggg ggggcttggt ccctgcagt atctgttctg tgaagtttgt  
 2640  
 taaatgtaag gaaagcttaa attcttgat ctttaaaga gaaaatctta tttaccctt  
 2700  
 ttgtgttcta gatttactta cacacatagc ctagagctca gttttagttt taacattgtg  
 2760  
 aaaatattaa aagaatcttg taactttatt cttttttctc ctgctgaaaa aaaaaattaa  
 2820  
 accaatcgta tgaaagtttg gttttcttgt ttcacccctt ctctaagtg cccctgggt  
 2880  
 tgctgggaaa actgacccat ctccctggcc agggctggaa agagatgggg gcctgtgtgc  
 2940  
 agagaccgtc tgcagtactt ggaggcactc gtccagttag tgtccaggct aaacagccgc  
 3000  
 ttccttgctt tctgttgga gcctctgcc tggaagctg cgggactggc cttggggtaa  
 3060  
 aggtgggtct gcagggcaa gcctgtgcca gcagccagga ggttacacac tgggggggat  
 3120  
 cagaaaacga gcccagccc tgaggggcc  
 3149

&lt;210&gt; 3756

&lt;211&gt; 199

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3756

Met	Asn	Leu	Cys	Ser	Lys	Cys	Phe	Ala	Asp	Phe	Gln	Lys	Lys	Gln	Pro
1			5						10					15	
Asp	Asp	Asp	Ser	Ala	Pro	Ser	Thr	Ser	Asn	Ser	Gln	Ser	Asp	Leu	Phe
			20					25					30		
Ser	Glu	Glu	Thr	Thr	Ser	Asp	Asn	Asn	Asn	Thr	Ser	Ile	Thr	Thr	Pro
			35				40					45			
Thr	Leu	Ser	Pro	Ser	Gln	Gln	Pro	Leu	Pro	Thr	Glu	Leu	Asn	Val	Thr
			50			55					60				
Ser	Pro	Ser	Lys	Glu	Glu	Cys	Gly	Pro	Cys	Thr	Asp	Thr	Ala	His	Val
65					70				75					80	
Ser	Leu	Ile	Thr	Pro	Thr	Lys	Arg	Ser	Cys	Gly	Thr	Asp	Ser	Gln	Ser
			85					90						95	
Glu	Asn	Glu	Ala	Ser	Pro	Val	Lys	Arg	Pro	Arg	Leu	Leu	Glu	Asn	Thr
			100					105					110		
Glu	Arg	Ser	Glu	Glu	Thr	Ser	Arg	Ser	Lys	Gln	Lys	Ser	Arg	Arg	Arg
			115				120					125			
Cys	Phe	Gln	Cys	Gln	Thr	Lys	Leu	Glu	Leu	Val	Gln	Gln	Glu	Leu	Gly
			130			135					140				
Ser	Cys	Arg	Cys	Gly	Tyr	Val	Phe	Cys	Met	Leu	His	Arg	Leu	Pro	Glu

```
<210> 3758
<211> 199
<212> PRT
```

&lt;213&gt; Homo sapiens

&lt;400&gt; 3758

Arg Leu Ala Gly Ala Ala Ser Ser Lys Ser Cys Arg Asn Trp Arg Ala  
 1 5 10 15  
 Ala Val Asp Leu Cys Gly Arg Leu Leu Thr Ala His Gly Gln Gly Tyr  
 20 25 30  
 Gly Lys Ser Gly Leu Leu Thr Ser His Thr Thr Asp Ser Leu Gln Leu  
 35 40 45  
 Trp Phe Val Arg Leu Ala Leu Leu Val Lys Leu Gly Leu Phe Gln Asn  
 50 55 60  
 Ala Glu Met Glu Phe Glu Pro Phe Gly Asn Leu Asp Gln Pro Asp Leu  
 65 70 75 80  
 Tyr Ser Glu Tyr Tyr Pro His Val Tyr Pro Gly Arg Arg Gly Ser Met  
 85 90 95  
 Val Pro Phe Ser Met Arg Ile Leu His Ala Glu Leu Gln Gln Tyr Leu  
 100 105 110  
 Gly Asn Pro Gln Glu Ser Leu Asp Arg Leu His Lys Val Lys Thr Val  
 115 120 125  
 Cys Ser Lys Val Gly Gly Ala Val Ile Leu Pro Cys His Gly Glu Asn  
 130 135 140  
 Met Pro Ser Thr Pro Ser Pro Gln Asp Met Pro Val Leu Phe Pro Ala  
 145 150 155 160  
 Arg Pro Ala Pro Cys Thr Ile Ala Ala Ser Ala Phe Arg Arg Leu Gly  
 165 170 175  
 Asp Pro Gly Leu Cys Gly Leu Val Val Val Ala Leu Ala Glu Ile Phe  
 180 185 190  
 Phe Arg Asp Gly Lys Ser Phe  
 195

&lt;210&gt; 3759

&lt;211&gt; 830

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3759

ngtcgaatat ccatgcagac tagatacgtt cttaagaaac agcaataaag ctctctatgg  
 60  
 tctcatccag aagtgtaaaa acagatatag tgccttcaac taccgggcaa caggagaaga  
 120  
 agagcaaagg caggcggacg agtccttgga aaaaattgag agcatgggtgc atcagaatgg  
 180  
 gaacaagcat tgtgttttca gagaaaaaga aaccctgaac attgtccttg tggggagaag  
 240  
 cgggactggg aagagtgcga ccgggaactc tctcctgggg agcctcgtct tcacctctcg  
 300  
 gctccgggcc cagccagtca ccaagaccag ccagagtggc aggaggacat gggacggaca  
 360  
 ggaggtggtg gttgtggaca ccttccttc aaccagatgc tggatgtcaa aggacccatc  
 420  
 ccggttaaaa gaggaggtca agcgtgttt gtcctgctgt gaaaaagggg acacattttt  
 480  
 gtcctggtgt tccagctggg acgattcact gaagaggaca aaacagctgt ggcgaaactg  
 540

gaggccatct ttggagcaga ctttacgaaa tacgcgatta tgctgttcac ccggaaggaa  
 600  
 gacctagggg cggggaattt ggaagacttc atgaagaact cagataacaa agcccttcgg  
 660  
 cgcatttttaa aaaagtgggg ggggaggtt tgtgctttta acaacaaaga aacaggccag  
 720  
 gccagggaaa cccaggtgaa agctctttta acaaaggtca atgatctgag aaaagaaagt  
 780  
 ggggtggccg ggtatcccca tacacaggag aacgtcagcc cttcacgcgt  
 830

<210> 3760

<211> 100

<212> PRT

<213> Homo sapiens

<400> 3760

Glu	His	Gly	Ala	Ser	Glu	Trp	Glu	Gln	Ala	Leu	Cys	Phe	Gln	Arg	Lys
1				5				10					15		
Arg	Asn	Pro	Glu	His	Cys	Pro	Cys	Gly	Glu	Lys	Arg	Asp	Trp	Glu	Glu
		20					25					30			
Cys	Asp	Arg	Glu	Leu	Tyr	Pro	Gly	Glu	Pro	Arg	Leu	His	Leu	Ser	Ala
	35					40				45					
Pro	Gly	Pro	Ala	Ser	His	Gln	Asp	Gln	Pro	Glu	Trp	Gln	Glu	Asp	Met
	50				55			60							
Gly	Arg	Thr	Gly	Gly	Gly	Gly	Cys	Gly	His	Pro	Ser	Phe	Asn	Gln	Met
65				70				75					80		
Leu	Asp	Val	Lys	Gly	Pro	Ile	Pro	Val	Lys	Arg	Gly	Gly	Gln	Ala	Leu
			85					90					95		
Phe	Val	Leu	Leu												
			100												

<210> 3761

<211> 458

<212> DNA

<213> Homo sapiens

<400> 3761

acgcgtgcag gtggcaccga gcgcctcag gtgcgtaccc cgcctccgccc gccgacgccg  
 60  
 ccgacgccgc cattaagggc ggggtgcctt tcggaacgtc ctctcctga gggcctgggg  
 120  
 aaggaggcc gcccgccgc agcgggaggt ggccccccgg gacaccccg cgccccgagg  
 180  
 cgaggcacc cgaaccccg atccctgctg gcaggaccag aggtgtgagg gtggggggcg  
 240  
 ggaagccttg ccgcgggggc aatggtcgta cgcacggagc gcacatccct ctcttcctg  
 300  
 attggccgag cgggggtgtg cgtgatgcca cgtccgccc gtcgtacgtg gggcgctcgc  
 360  
 gctgcgtgca gacgcgttg attggttaga taagggggcg ggggcccgcg ctgttaccag  
 420  
 gcaactgcgc cccggatccg cccctgacg tcacgcgt  
 458

<210> 3762  
 <211> 75  
 <212> PRT  
 <213> Homo sapiens

<400> 3762  
 Thr Arg Ala Gly Gly Thr Gln Arg Pro Gln Val Arg Thr Pro Pro Pro  
 1 5 10 15  
 Pro Pro Thr Pro Pro Thr Pro Pro Leu Arg Ala Gly Cys Leu Ser Glu  
 20 25 30  
 Arg Pro Pro Pro Glu Gly Leu Gly Lys Gly Gly Arg Pro Ala Ala Ala  
 35 40 45  
 Gly Gly Gly Pro Pro Gly His Pro Gly Ala Pro Arg Arg Gly Thr Pro  
 50 55 60  
 Glu Pro Arg Ser Leu Leu Ala Gly Pro Glu Val  
 65 70 75

<210> 3763  
 <211> 1340  
 <212> DNA  
 <213> Homo sapiens

<400> 3763  
 nnggcgtccg ctctctcccc tcgcggtcgg tagagctggc tgcgccgagc cccctgcacg  
 60  
 ctgcacatgg ggcgcctgac ggaagcggcg gcagcgggca gcggctctcg ggctgcaggc  
 120  
 tgggcagggt cccctccac gctctgccg ctgtctccca cgccccag gtgcgcggcc  
 180  
 accatggcgt ccagcgacga ggacggcacc aacggcggcg cctcggaggc cggcgaggac  
 240  
 cgggaggctc cggcaagcg gaggcgcctg gggttcttgg ccaccgcctg gctcaccttc  
 300  
 tacgacatcg ccatgaccgc ggggtggttg gttctagcta ttgccatggg acgtttttat  
 360  
 atggaaaagg gaacacacag agggttatat aaaagtattc agaagacact taaatttttc  
 420  
 cagacatttg ccttgcttga gatagttcac tgtttaattg gaattgtacc tacttctgtg  
 480  
 attgtgactg ggggtccaagt gagctcaaga atctttatgg tgtggctcat tactcacagt  
 540  
 ataaaaccaa tccagaatga agagagtgtg gtgctttttc tggtcgcgtg gactgtgaca  
 600  
 gagatcactc gctattcctt ctacacattc agccttcttg accacttgcc atacttcatt  
 660  
 aaatgggcca gatataattt ttttatcatc ttatatcctg ttggagttgc tgggtgaactt  
 720  
 cttacaatat acgctgcctt gccgtatgtg aagaaaacag gaatgttttc aataagactt  
 780  
 cctaacaaat acaatgtctc ttttgactac tattattttc ttcttataac catggcatca  
 840  
 tatatacctt tgtttccaca actctatttt catatgttac gtcaaagaag aaagggtgctt  
 900

catggagagg tgattgtaga aaaggatgat taaatgatct ctgcaaaciaa ggtgcttttt  
 960  
 ccagaataac caagattacc tgagtccaag ttttaataac aagaataaac aactttgtga  
 1020  
 aatatcatgg attgtatggt ttcttaaaat ataacttgag acacgtggta tttgccagta  
 1080  
 tttgtgttcc tcttgtgccca gatctatttt ttacaagaac tgtgccaata tcagtaactt  
 1140  
 ttgggtaggt attgattatt aggaaaataa ttaggtgtat tatctggggg aaaaaaaac  
 1200  
 ttttgctaag ttttttttga aacatgctca aagcttttta aatcaatatt tagaaattag  
 1260  
 ttttaagtatt tactattata cctgctagtg atatttatgt gatatttaca aatgaaaatt  
 1320  
 aatgcaaaat ttttaacaaa  
 1340

<210> 3764

<211> 288

<212> PRT

<213> Homo sapiens

<400> 3764

Met	Gly	Arg	Leu	Thr	Glu	Ala	Ala	Ala	Ala	Gly	Ser	Gly	Ser	Arg	Ala
1				5					10					15	
Ala	Gly	Trp	Ala	Gly	Ser	Pro	Pro	Thr	Leu	Leu	Pro	Leu	Ser	Pro	Thr
			20					25					30		
Ser	Pro	Arg	Cys	Ala	Ala	Thr	Met	Ala	Ser	Ser	Asp	Glu	Asp	Gly	Thr
		35				40					45				
Asn	Gly	Gly	Ala	Ser	Glu	Ala	Gly	Glu	Asp	Arg	Glu	Ala	Pro	Gly	Lys
	50				55				60						
Arg	Arg	Arg	Leu	Gly	Phe	Leu	Ala	Thr	Ala	Trp	Leu	Thr	Phe	Tyr	Asp
65				70					75					80	
Ile	Ala	Met	Thr	Ala	Gly	Trp	Leu	Val	Leu	Ala	Ile	Ala	Met	Val	Arg
			85					90						95	
Phe	Tyr	Met	Glu	Lys	Gly	Thr	His	Arg	Gly	Leu	Tyr	Lys	Ser	Ile	Gln
		100				105						110			
Lys	Thr	Leu	Lys	Phe	Phe	Gln	Thr	Phe	Ala	Leu	Leu	Glu	Ile	Val	His
	115					120						125			
Cys	Leu	Ile	Gly	Ile	Val	Pro	Thr	Ser	Val	Ile	Val	Thr	Gly	Val	Gln
	130				135					140					
Val	Ser	Ser	Arg	Ile	Phe	Met	Val	Trp	Leu	Ile	Thr	His	Ser	Ile	Lys
145				150					155					160	
Pro	Ile	Gln	Asn	Glu	Glu	Ser	Val	Val	Leu	Phe	Leu	Val	Ala	Trp	Thr
		165						170					175		
Val	Thr	Glu	Ile	Thr	Arg	Tyr	Ser	Phe	Tyr	Thr	Phe	Ser	Leu	Leu	Asp
	180							185					190		
His	Leu	Pro	Tyr	Phe	Ile	Lys	Trp	Ala	Arg	Tyr	Asn	Phe	Phe	Ile	Ile
	195					200					205				
Leu	Tyr	Pro	Val	Gly	Val	Ala	Gly	Glu	Leu	Leu	Thr	Ile	Tyr	Ala	Ala
	210				215						220				
Leu	Pro	Tyr	Val	Lys	Lys	Thr	Gly	Met	Phe	Ser	Ile	Arg	Leu	Pro	Asn
225				230						235				240	
Lys	Tyr	Asn	Val	Ser	Phe	Asp	Tyr	Tyr	Tyr	Phe	Leu	Leu	Ile	Thr	Met

	245		250		255
Ala Ser Tyr Ile Pro Leu Phe Pro Gln Leu Tyr Phe His Met Leu Arg					
	260		265		270
Gln Arg Arg Lys Val Leu His Gly Glu Val Ile Val Glu Lys Asp Asp					
	275		280		285

&lt;210&gt; 3765

&lt;211&gt; 2764

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3765

ngagtggctg ttgagcggcg ccgcgaggagt tccgcagggt tcccgtgttc gcagcggagc  
60

cggaggccag ctgaaccgag ccgtgggagc ccggatagga ggaggagggg acccatagga  
120

cgcgttaaca tggacctgga aaacaaagtg aagaagatgg gcttaggtca cgagcaagga  
180

tttgagccc cttgtttaaa atgcaaagaa aaatgtgaag gattcgaact gcacttctgg  
240

agaaaaatat gtcgtaactg caagtgtggc caagaagagc atgatgtcct cttgagcaat  
300

gaagaggatc gaaaagtggg aaaacttttt gaagacacca agtataccac tctgattgca  
360

aaactaaagt cagatggaat tcccatgtat aaacgcaatg ttatgatatt gacgaatcca  
420

gttgctgcca agaagaatgt ctccatcaat acagttacct atgagtgggc tcctcctgtc  
480

cagaatcaag cattggccag gcagtacatg cagatgctac ccaaggaaaa gcagccagta  
540

gcaggctcag agggggcaca gtaccggaag aagcagctgg caaagcagct ccctgcacat  
600

gaccaggacc cttcaaagtg ccatgagttg tctcccagag aggtgaagga gatggagcag  
660

tttgtgaaga aatataagag cgaagctctg ggagtaggag atgtcaaact tcctgtgag  
720

atggatgccc aaggcccca acaaatgaac attcctggag gggatagaag caccacagca  
780

gcagtggggg ccatggagga caaatctgct gagcacaaaa gaactcaata ttctgctat  
840

tgctgcaaac tgagtatgaa agaaggtgac ccagccatct atgccgaaag ggctggctat  
900

gataaactgt ggcaccagc ttgttttgtc tgcagcacct gccatgaact cctggttgac  
960

atgatttatt ttggaagaa tgagaagcta tactgtggca gacattactg tgacagcgag  
1020

aaaccccgat gtgctggctg tgacgagctg atattcagca atgagtatac ccaggcgaa  
1080

aaccagaatt ggcacctgaa acacttctgc tgctttgact gtgatagcat tctagctggg  
1140

gagatatacg tgatggtaa tgacaagccc gtgtgcaagc cctgctatgt gaagaatcac  
1200

gctgtggtgt gtcaaggatg ccacaatgcc atcgaccag aagtgcagcg ggtgacctat  
1260

aacaatttca gctggcatgc atccacagag tgctttctgt gctcttgctg cagcaaatgc  
1320  
ctcattgggc agaagttcat gccagtagaa gggatggttt tctgttcagt ggaatgtaag  
1380  
aagaggatgt cttaggagga gggcaccag aagtatcgag ccatagctat ccaaagtggg  
1440  
ctgcatttct actgtaaaat gcaatttgaa aaaaataaaa cgcaaaaaa gaaactgtaa  
1500  
aggaaaccaa gagattttgt ttaatttttt tggccatttt ttcttcatca attttttttc  
1560  
gggtctcaact tttaaacttg gtttaagcat ttgatttgta aaacagtaaa taattgtatc  
1620  
tttccatagc ttttcaaagtg tgaaatcatt tttggaagct tggatctcat taaacttcat  
1680  
gtctctattc catttggtgcc acacacttaa aagttagtgt actgaatgga aagatgagca  
1740  
ttcctagttc tacacttctt ttttccccct catgtgtaaa atgaaaagaa aactaaattt  
1800  
gccctaatac caaggcgcta cgtttattgc ctctcttcat tcaactgacct ttgtaatgat  
1860  
acacagtga ttttttttga caaagagaaa tgcagtgtag tatgcagagc tgctgtttta  
1920  
atgccctatg catttactct ttcttgattt aggcagaggt ggcattttct ttattgcatt  
1980  
tctctatttt tttaatgtac cctaccttca gtattctctt tgtaagtggg tgacttgcat  
2040  
ctgtggcctt gaatatttta ttatcacatg tggcataaca gtatccacac tttttagttc  
2100  
tttatttttt tttttttatt ttgagcaatt ctctgcctc agcctcccaa atagctggga  
2160  
ttacaggtgc atgccaccac acccagctaa tttttgtatt tttagtagag acaggttttc  
2220  
accatgttag ccaggctggg ctcaaactcc tgacctcaga tgatccgcct gccttggcct  
2280  
cccaaagtgc tgggattaca ggtgtgggag ccaccatgcc tgaccacac actttttact  
2340  
tgtatagatg atttttggct tggacataaa agccaagcca ccatttgct tttaatccaa  
2400  
agaacatgta tagtttttgt acccagagac tatgatttat attgattgca cttgcctgcc  
2460  
atgatttaga taagattttt ttgcatggg ttttattctt tctaatgga tctgtttta  
2520  
taatacttcc aagcctgtcc atggatatat caaatgtctt cacttgata ttttcatggc  
2580  
taggtatttc taatgtttat tcttccctgt gtacttctac acatagctat gcactatgaa  
2640  
aattaaatgg aatgaatgat atgtatatta ctcatccat ttaattttca tagtgcata  
2700  
ctatgaaaat taaatggaat gaatgatag tatattactc aaaataaagt ttctttcact  
2760  
ttaa  
2764

&lt;210&gt; 3766



&lt;211&gt; 464

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3766

Xaa Val Ala Val Glu Arg Arg Arg Gly Ser Ser Ala Gly Phe Pro Cys  
1 5 10 15  
Ser Gln Arg Ser Arg Arg Pro Ala Glu Pro Gly Arg Gly Ile Pro Asp  
20 25 30  
Arg Arg Arg Arg Gly Pro Ile Gly Arg Val Asn Met Asp Leu Glu Asn  
35 40 45  
Lys Val Lys Lys Met Gly Leu Gly His Glu Gln Gly Phe Gly Ala Pro  
50 55 60  
Cys Leu Lys Cys Lys Glu Lys Cys Glu Gly Phe Glu Leu His Phe Trp  
65 70 75 80  
Arg Lys Ile Cys Arg Asn Cys Lys Cys Gly Gln Glu Glu His Asp Val  
85 90 95  
Leu Leu Ser Asn Glu Glu Asp Arg Lys Val Gly Lys Leu Phe Glu Asp  
100 105 110  
Thr Lys Tyr Thr Thr Leu Ile Ala Lys Leu Lys Ser Asp Gly Ile Pro  
115 120 125  
Met Tyr Lys Arg Asn Val Met Ile Leu Thr Asn Pro Val Ala Ala Lys  
130 135 140  
Lys Asn Val Ser Ile Asn Thr Val Thr Tyr Glu Trp Ala Pro Pro Val  
145 150 155 160  
Gln Asn Gln Ala Leu Ala Arg Gln Tyr Met Gln Met Leu Pro Lys Glu  
165 170 175  
Lys Gln Pro Val Ala Gly Ser Glu Gly Ala Gln Tyr Arg Lys Lys Gln  
180 185 190  
Leu Ala Lys Gln Leu Pro Ala His Asp Gln Asp Pro Ser Lys Cys His  
195 200 205  
Glu Leu Ser Pro Arg Glu Val Lys Glu Met Glu Gln Phe Val Lys Lys  
210 215 220  
Tyr Lys Ser Glu Ala Leu Gly Val Gly Asp Val Lys Leu Pro Cys Glu  
225 230 235 240  
Met Asp Ala Gln Gly Pro Lys Gln Met Asn Ile Pro Gly Gly Asp Arg  
245 250 255  
Ser Thr Pro Ala Ala Val Gly Ala Met Glu Asp Lys Ser Ala Glu His  
260 265 270  
Lys Arg Thr Gln Tyr Ser Cys Tyr Cys Cys Lys Leu Ser Met Lys Glu  
275 280 285  
Gly Asp Pro Ala Ile Tyr Ala Glu Arg Ala Gly Tyr Asp Lys Leu Trp  
290 295 300  
His Pro Ala Cys Phe Val Cys Ser Thr Cys His Glu Leu Leu Val Asp  
305 310 315 320  
Met Ile Tyr Phe Trp Lys Asn Glu Lys Leu Tyr Cys Gly Arg His Tyr  
325 330 335  
Cys Asp Ser Glu Lys Pro Arg Cys Ala Gly Cys Asp Glu Leu Ile Phe  
340 345 350  
Ser Asn Glu Tyr Thr Gln Ala Glu Asn Gln Asn Trp His Leu Lys His  
355 360 365  
Phe Cys Cys Phe Asp Cys Asp Ser Ile Leu Ala Gly Glu Ile Tyr Val  
370 375 380  
Met Val Asn Asp Lys Pro Val Cys Lys Pro Cys Tyr Val Lys Asn His

385		390		395		400									
Ala	Val	Val	Cys	Gln	Gly	Cys	His	Asn	Ala	Ile	Asp	Pro	Glu	Val	Gln
			405						410					415	
Arg	Val	Thr	Tyr	Asn	Asn	Phe	Ser	Trp	His	Ala	Ser	Thr	Glu	Cys	Phe
			420						425					430	
Leu	Cys	Ser	Cys	Cys	Ser	Lys	Cys	Leu	Ile	Gly	Gln	Lys	Phe	Met	Pro
			435						440					445	
Val	Glu	Gly	Met	Val	Phe	Cys	Ser	Val	Glu	Cys	Lys	Lys	Arg	Met	Ser
			450						455					460	

&lt;210&gt; 3767

&lt;211&gt; 2439

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3767

```

ntttttttta tagtttaatg tattttaata gcaagtgata taccacgagg agcaaattggc
60
acatggaccc tccgtccttg ggggtggacag aaccaactgc tcctgtcact gtttcttacc
120
gggccagac acgccccaga gccccgcaca ggccagttgc tactgccagt cgtgaggcga
180
acccacctgc tgacccaaag ccatgccggt tccaccatga gactgagtgt gggcacttgt
240
gagcgtgctt ctggggcgca caggcgctct gacggggcga agtgagaatt ccagtgcgcc
300
agtatagtat atacaatata attaggagag aaagaagcag gatatgaaaa catacttttt
360
gttattggca tgaaaggcca tggctcctgc catgtcccca gactgtgata agccagggtta
420
aactccagca cctgaaaggt gttctcacct gcagtgaatc tgtcgtgtgg ctggtgagca
480
gcccgctctt gccgtagccc tggccgtggg ctgtgaggag acgtccgcac aggtccactg
540
ctgccctcca gtttctgcag ctgattagct gtttcaatcc aacaaaagat tgttccactg
600
agtgcgcatt taggacttgt ctctttgctg cagctttttc acccagaaag cgaagcatca
660
agtctttaac tgcattctcc tggatgttgt cgaacctgag gcccggcatt gtgaggttct
720
ccttgctcac gaacacggcg ccgcgtgct ggggtggccac ggccccgagg gccccaggca
780
gctgcgcccc cggcgtcgcc agagcctttc gcgcacatcc aggcagtgtt tgcagggagt
840
gacgaccctt ttgccaccgc cctgagcatg ggcgagatgg accggaggaa cgacgcctgg
900
cttccccggc aggtacgcg tggagtctg cgggcccgtg ccaccagca gcggggcgcc
960
gtgttcgtgg acaaggagaa cctcaccatg ccgggcctca ggttcgacaa catccaggga
1020
gatgcagtta aagacttgat gcttcgcttt ctgggtgaaa aagctgcagc aaagagacaa
1080
gtcctaaatg ccgactcagt ggaacaatct tttgttggat tgaaacagct aatcagctgc
1140

```

agaaactgga gggcagcagt ggacctgtgc ggacgtctcc tcacagccca cggccagggc  
 1200  
 tacggcaaga gcgggctgct caccagccac acgacagatt cactgcagct ctggtttgtc  
 1260  
 aggctggcac tactagtga gttgggcctt ttccagaatg ctgagatgga atttgaacct  
 1320  
 ttcggaaatc ttgatcagcc agatctttat tacgagtact acccgcacgt gtaccttggg  
 1380  
 cgcaggggct ccatgggtccc cttctcgatg cgcattcttc acgcggagct tcagcagtac  
 1440  
 ctggggaacc cacaggagtc gctggataga ctgcacaagg tgaagactgt ctgcagcaag  
 1500  
 atcctggcca atttggagca aggcttagca gaagacggcg gcatgagcag cgtgactcag  
 1560  
 gagggcagac aagcctctat ccggtgtggt aggtcacgtc tgggcccggg gatgtactcc  
 1620  
 atggcaaact gtctgtcct gatgaaggat tatgtgctgg ccgtggaggc gtatcattcg  
 1680  
 gttatcaagt attaccaga gcaagagccc cagctgctca gcggcatcgg ccggatttcc  
 1740  
 ctccagattg gagacataaa aacagctgaa aagtattttc aagacgttga gaaagtaaca  
 1800  
 cagaaattag atggactaca gggtaaaatc atggttttga tgaacagcgc gttccttcac  
 1860  
 ctcgggcaga ataactttgc agaagcccac aggttcttca cagagatctt aaggatggat  
 1920  
 ccaagaaacg cagtggccaa caacaacgct gccgtgtgct tgctctacct gggcaagctc  
 1980  
 aaggactccc tgccgcagct ggaggccatg gtccagcagg accccaggca ctacctgcac  
 2040  
 gagagcgtgc tcttcaacct gaccaccatg tacgagctgg agtcctcag gagcatgcag  
 2100  
 aagaaacagg ccctgctgga ggctgtcgcc ggcaaggagg gggacagctt caacacacag  
 2160  
 tgcctcaagc tggcctagct gcctccaaca cactacgtca gaaggaccg ggtctttgaa  
 2220  
 actgtgtctt gaagctaata tattaatgtg acatggagga actcaataaa actccttttc  
 2280  
 tctttanttt tctaaagttt gactatgctg tgtcttattt tacatttctg tagatttatt  
 2340  
 gtgtttttta ttactcagc ttcaatctgt atgtttatgt ctttcaccaa attggaaagt  
 2400  
 ttttcacttt gattatttga ttttatattg ctttgcata  
 2439

&lt;210&gt; 3768

&lt;211&gt; 379

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3768

Met Leu Arg Phe Leu Gly Glu Lys Ala Ala Ala Lys Arg Gln Val Leu  
 1 5 10 15  
 Asn Ala Asp Ser Val Glu Gln Ser Phe Val Gly Leu Lys Gln Leu Ile

```

                20                25                30
Ser Cys Arg Asn Trp Arg Ala Ala Val Asp Leu Cys Gly Arg Leu Leu
   35                40                45
Thr Ala His Gly Gln Gly Tyr Gly Lys Ser Gly Leu Leu Thr Ser His
   50                55                60
Thr Thr Asp Ser Leu Gln Leu Trp Phe Val Arg Leu Ala Leu Leu Val
   65                70                75                80
Lys Leu Gly Leu Phe Gln Asn Ala Glu Met Glu Phe Glu Pro Phe Gly
   85                90                95
Asn Leu Asp Gln Pro Asp Leu Tyr Tyr Glu Tyr Tyr Pro His Val Tyr
  100                105                110
Pro Gly Arg Arg Gly Ser Met Val Pro Phe Ser Met Arg Ile Leu His
  115                120                125
Ala Glu Leu Gln Gln Tyr Leu Gly Asn Pro Gln Glu Ser Leu Asp Arg
  130                135                140
Leu His Lys Val Lys Thr Val Cys Ser Lys Ile Leu Ala Asn Leu Glu
  145                150                155                160
Gln Gly Leu Ala Glu Asp Gly Gly Met Ser Ser Val Thr Gln Glu Gly
  165                170                175
Arg Gln Ala Ser Ile Arg Leu Trp Arg Ser Arg Leu Gly Arg Val Met
  180                185                190
Tyr Ser Met Ala Asn Cys Leu Leu Met Lys Asp Tyr Val Leu Ala
  195                200                205
Val Glu Ala Tyr His Ser Val Ile Lys Tyr Tyr Pro Glu Gln Glu Pro
  210                215                220
Gln Leu Leu Ser Gly Ile Gly Arg Ile Ser Leu Gln Ile Gly Asp Ile
  225                230                235                240
Lys Thr Ala Glu Lys Tyr Phe Gln Asp Val Glu Lys Val Thr Gln Lys
  245                250                255
Leu Asp Gly Leu Gln Gly Lys Ile Met Val Leu Met Asn Ser Ala Phe
  260                265                270
Leu His Leu Gly Gln Asn Asn Phe Ala Glu Ala His Arg Phe Phe Thr
  275                280                285
Glu Ile Leu Arg Met Asp Pro Arg Asn Ala Val Ala Asn Asn Asn Ala
  290                295                300
Ala Val Cys Leu Leu Tyr Leu Gly Lys Leu Lys Asp Ser Leu Arg Gln
  305                310                315                320
Leu Glu Ala Met Val Gln Gln Asp Pro Arg His Tyr Leu His Glu Ser
  325                330                335
Val Leu Phe Asn Leu Thr Thr Met Tyr Glu Leu Glu Ser Ser Arg Ser
  340                345                350
Met Gln Lys Lys Gln Ala Leu Leu Glu Ala Val Ala Gly Lys Glu Gly
  355                360                365
Asp Ser Phe Asn Thr Gln Cys Leu Lys Leu Ala
  370                375

```

&lt;210&gt; 3769

&lt;211&gt; 1931

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3769

nacgcgtgta cgatcatggag gatatacat tcaacgtgaa ggttgcttca ggtgaatgca  
60

atgaagacac tgaagtttac aacatcaccc tgtgtactgg ggatgaactc actctaattgg  
120  
ggcaggcaga aatcctttat gcaaagacat tcaaggaaaa gtcacgactc aacaçaatct  
180  
tcaaaaagat tgggaagctc aattccatca gcaagctggg aaaaggcaaa atgccgtgcc  
240  
tcatttgtat gaatcacccg accaacgaaa gcattagcct tccattccag tgcaagggca  
300  
gatttagcac ccgaagtccc ctggaacttc agatgcaaga gggcgaacac accatccgca  
360  
acattgtgga gaaaaccagg ctctctgtga atgtgactgt gccaaagcct ccaccgagaa  
420  
accatacga cctccacttc atccgtgagg ggcaccgcta taagtttgtg agcatccaga  
480  
ccaagacggt ggtggtttgc tgtgtgctgc ggaacaacaa gatcctcccc atgcacttcc  
540  
ctttgcactt gactgtcccc aagtccagcc tcccagaacc cctgggtgaag ggagagagct  
600  
ggccccgaaac cctgggtccc tcccgggcta ggtatctgcc aagaacagtt cgacatcgat  
660  
gagtattcac gggctgtccg tgatgtgaaa accgactgga atgaagaatg caagagcccc  
720  
aagaaggggc ggtgctctgg ccacaaccac gtgcccaatt cgctcagcta cgccccgat  
780  
gagctcacc agtccttcca ccgactctcg gtctgtgtgt atggcaacaa tctccatggc  
840  
aacagtgagg tgaaccttca tggttgcagg gacctggggg gagattgggc tccctttcct  
900  
catgacatcc tgccctatca ggactctgga gatagtggga gcgactacct tttcccagaa  
960  
gctagtgaag aatcagcagg catcccggga aagtcagaac ttccctacga agagctgtgg  
1020  
ctggaggaag gcaagcccag ccatcagcct ctcaactcgt ctctgagcga gaagaacaga  
1080  
tgtgatcagt ttagaggttc tgtccgatcc aaatgtgcga cttctcctct tcccatcct  
1140  
gggactctgg gagcagcagt gaagtcttca gatactgccc tacctccacc tccagtgcct  
1200  
cccaaactctg aagccgtcag agaagaatgc cggctcctga acgccccacc tgttccaccc  
1260  
cgaagcgcaa agcctttgtc caccagtccc tccatccctc ctgcacagct caagccagcg  
1320  
cggcaacaga ctgcctctcc cagccccacc ttgtcctact attcttcagg gctacacaac  
1380  
atcgtcacta aaactgacac aaatccttct gaaagcactc ctgtttcctg ctatccatgt  
1440  
aaccgagtga aaactgattc tgtggacctg aaatccccgt ttggaagtcc ttctgtgaa  
1500  
gctgtgtcct ctcggtctct atggcctaac cattattcag gagcatcaga aagccagacc  
1560  
aggagtgact tcctgctgga tccaagcagg agttatagtt accctagaca aaagacgcca  
1620  
ggcacaccaa agagaaactg cccagcacct tttgattttg atggctgtga gctcctggcc  
1680

agccccacta gccagtcac tgcagaattc agtagcagcg tctctggttg tcccaagtca  
 1740  
 gccagctact ctctggagag cacagatgtg aaatctcttg cagctggtgt gacaaagcag  
 1800  
 agtacgtcat gccctgcctt accccccagg gctccaaaac tagtggaaga gaaggtcgcc  
 1860  
 tccgaaacat ctctttgcc tctgaaaatt gatggtgctg aggaagaccc caagtctggg  
 1920  
 tcaccagatc t  
 1931

<210> 3770

<211> 447

<212> PRT

<213> Homo sapiens

<400> 3770

Arg	Glu	Arg	Ala	Gly	Pro	Lys	Pro	Trp	Ser	His	Pro	Gly	Leu	Gly	Ile
1				5					10					15	
Cys	Gln	Glu	Gln	Phe	Asp	Ile	Asp	Glu	Tyr	Ser	Arg	Ala	Val	Arg	Asp
			20					25					30		
Val	Lys	Thr	Asp	Trp	Asn	Glu	Glu	Cys	Lys	Ser	Pro	Lys	Lys	Gly	Arg
		35					40					45			
Cys	Ser	Gly	His	Asn	His	Val	Pro	Asn	Ser	Leu	Ser	Tyr	Ala	Arg	Asp
	50					55					60				
Glu	Leu	Thr	Gln	Ser	Phe	His	Arg	Leu	Ser	Val	Cys	Val	Tyr	Gly	Asn
65					70					75				80	
Asn	Leu	His	Gly	Asn	Ser	Glu	Val	Asn	Leu	His	Gly	Cys	Arg	Asp	Leu
			85					90					95		
Gly	Gly	Asp	Trp	Ala	Pro	Phe	Pro	His	Asp	Ile	Leu	Pro	Tyr	Gln	Asp
		100					105					110			
Ser	Gly	Asp	Ser	Gly	Ser	Asp	Tyr	Leu	Phe	Pro	Glu	Ala	Ser	Glu	Glu
	115					120					125				
Ser	Ala	Gly	Ile	Pro	Gly	Lys	Ser	Glu	Leu	Pro	Tyr	Glu	Glu	Leu	Trp
	130				135					140					
Leu	Glu	Glu	Gly	Lys	Pro	Ser	His	Gln	Pro	Leu	Thr	Arg	Ser	Leu	Ser
145				150					155					160	
Glu	Lys	Asn	Arg	Cys	Asp	Gln	Phe	Arg	Gly	Ser	Val	Arg	Ser	Lys	Cys
			165					170					175		
Ala	Thr	Ser	Pro	Leu	Pro	Ile	Pro	Gly	Thr	Leu	Gly	Ala	Ala	Val	Lys
		180					185				190				
Ser	Ser	Asp	Thr	Ala	Leu	Pro	Pro	Pro	Pro	Val	Pro	Pro	Lys	Ser	Glu
	195					200					205				
Ala	Val	Arg	Glu	Glu	Cys	Arg	Leu	Leu	Asn	Ala	Pro	Pro	Val	Pro	Pro
	210				215					220					
Arg	Ser	Ala	Lys	Pro	Leu	Ser	Thr	Ser	Pro	Ser	Ile	Pro	Pro	Arg	Thr
225				230					235					240	
Val	Lys	Pro	Ala	Arg	Gln	Gln	Thr	Arg	Ser	Pro	Ser	Pro	Thr	Leu	Ser
			245					250					255		
Tyr	Tyr	Ser	Ser	Gly	Leu	His	Asn	Ile	Val	Thr	Lys	Thr	Asp	Thr	Asn
	260						265					270			
Pro	Ser	Glu	Ser	Thr	Pro	Val	Ser	Cys	Tyr	Pro	Cys	Asn	Arg	Val	Lys
	275					280					285				
Thr	Asp	Ser	Val	Asp	Leu	Lys	Ser	Pro	Phe	Gly	Ser	Pro	Ser	Ala	Glu

```

      290              295              300
Ala Val Ser Ser Arg Leu Ser Trp Pro Asn His Tyr Ser Gly Ala Ser
305              310              315              320
Glu Ser Gln Thr Arg Ser Asp Phe Leu Leu Asp Pro Ser Arg Ser Tyr
      325              330              335
Ser Tyr Pro Arg Gln Lys Thr Pro Gly Thr Pro Lys Arg Asn Cys Pro
      340              345              350
Ala Pro Phe Asp Phe Asp Gly Cys Glu Leu Leu Ala Ser Pro Thr Ser
      355              360              365
Pro Val Thr Ala Glu Phe Ser Ser Ser Val Ser Gly Cys Pro Lys Ser
      370              375              380
Ala Ser Tyr Ser Leu Glu Ser Thr Asp Val Lys Ser Leu Ala Ala Gly
385              390              395              400
Val Thr Lys Gln Ser Thr Ser Cys Pro Ala Leu Pro Pro Arg Ala Pro
      405              410              415
Lys Leu Val Glu Glu Lys Val Ala Ser Glu Thr Ser Pro Leu Pro Leu
      420              425              430
Lys Ile Asp Gly Ala Glu Glu Asp Pro Lys Ser Gly Ser Pro Asp
      435              440              445

```

&lt;210&gt; 3771

&lt;211&gt; 1514

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3771

```

ttcactattc atgatatgtga attcaaagaa tatactaccc gtacccaacg tccgccctca
60
gttatattag gagtaaccaa cccttttttt gctaagacac tccagcactg gccacacatt
120
attcgaatag gagaccttaa acctacaagt gaaattccta agcagggttaa agtgaaaaaa
180
ctgaagaatc taaagactct ggattccaaa cctggagttt atacttcata taagccatat
240
ttaaatagag atgaagagat cataaaacaa ttacagaagg gtgtacaaca gaaacgtcct
300
tctgaggctc aaagtgttat tcttcgacgc tatttttttg aactgacaca aagtttcac
360
attccattag aaagatatgt ggcaagcttg atgcctttgc agaaaagtat ttccccatgg
420
aagagtccac ctcaattaag acagtttctt ccagaagaat ttatgaaaac acttgagaaa
480
acaggacctc agctaacctc tagaataaaa ggcgattgga ttggacttta ccggcatttc
540
ctaaagtctc caaattttga tggctggttt aagacccgga ggaaggaaat gacccaaaaa
600
ttggaggcac tccatctaga agctctttgt gaagaggact tacttctctg gatccagaaa
660
cacacagaag tagaaacagt agacctgtgc ttgaagctga aaaataagct gttgcaggct
720
gatecgagagc acttacctgt gaaacctgac actatggaaa agttacggac acacatagat
780
gccattatct tagcattgcc agaggacttg caaggcatat tgctcaaaac gggcatgaca
840

```

tgatatttgc caagattttc cagccaaaaa ggattatgca tcatgaagca tactgacatt  
 900  
 tcaaccagac gcacaaagga gatctctcag tggcagcgga gtggaaaatt gccatgaatg  
 960  
 ctagttagcag ggtagaaaga ctgtattgta taaacagacc tttttagtgc attacttttt  
 1020  
 aaagtggata tctgtggtgg ttccacttta atactgaaac accgaaaggc atttctatat  
 1080  
 ttttaatcat gttctaaagt gctcttatga gagacttggt ggccatcagt attagtgtt  
 1140  
 tcatactgca gtgctggcat tgcagatatt tttttaaatt ggtgctgctt tgcccaatca  
 1200  
 tgttaaaact caggggggata taaaaataac attcacactg gctatcttct taagaacaga  
 1260  
 aagactgaac tgtcctatgg ttagaaggaa ttgatgctta tgtagtgcct tctgttgccc  
 1320  
 tacatgtttc acagttcagc tgctagtctt gaagcttttc cttagcttca ttatgatacg  
 1380  
 taattttata aggtattctg ttgagtgtac attgttttaa aaaaaagttt cttgctaccc  
 1440  
 attgtgttta ttaatagaca tgatgggttt ttttcagttg tcatatagat tttcattatt  
 1500  
 ttcccttcac gcgt  
 1514

&lt;210&gt; 3772

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3772

Phe	Thr	Ile	His	Asp	Ser	Glu	Phe	Lys	Glu	Tyr	Thr	Thr	Arg	Thr	Gln
1			5						10					15	
Arg	Pro	Pro	Ser	Val	Ile	Leu	Gly	Val	Thr	Asn	Pro	Phe	Phe	Ala	Lys
			20					25					30		
Thr	Leu	Gln	His	Trp	Pro	His	Ile	Ile	Arg	Ile	Gly	Asp	Leu	Lys	Pro
	35					40					45				
Thr	Ser	Glu	Ile	Pro	Lys	Gln	Val	Lys	Val	Lys	Lys	Leu	Lys	Asn	Leu
	50					55					60				
Lys	Thr	Leu	Asp	Ser	Lys	Pro	Gly	Val	Tyr	Thr	Ser	Tyr	Lys	Pro	Tyr
65				70					75					80	
Leu	Asn	Arg	Asp	Glu	Glu	Ile	Ile	Lys	Gln	Leu	Gln	Lys	Gly	Val	Gln
			85					90					95		
Gln	Lys	Arg	Pro	Ser	Glu	Ala	Gln	Ser	Val	Ile	Leu	Arg	Arg	Tyr	Phe
			100				105						110		
Leu	Glu	Leu	Thr	Gln	Ser	Phe	Ile	Ile	Pro	Leu	Glu	Arg	Tyr	Val	Ala
	115					120						125			
Ser	Leu	Met	Pro	Leu	Gln	Lys	Ser	Ile	Ser	Pro	Trp	Lys	Ser	Pro	Pro
	130					135					140				
Gln	Leu	Arg	Gln	Phe	Leu	Pro	Glu	Glu	Phe	Met	Lys	Thr	Leu	Glu	Lys
145					150				155					160	
Thr	Gly	Pro	Gln	Leu	Thr	Ser	Arg	Ile	Lys	Gly	Asp	Trp	Ile	Gly	Leu
			165					170						175	
Tyr	Arg	His	Phe	Leu	Lys	Ser	Pro	Asn	Phe	Asp	Gly	Trp	Phe	Lys	Thr



```

<400> 3773
gcgcccggca ggcgttcagg gaagcgcggc cagcctggg cgggccacca tttcccggg
60
gccgcggcgg cgcgactcgc gggcagcggc ccctcagtgc gccagccgg gccccgaac
120
gccgggagca tgagcgcggg ctccgagcgc ggggcggcgg caacccccgg gggtttgccc
180
gcgccctgcg cctcgaaggt ggagctgcgg ctccagctgcc ggcacctgct ggaccgcgac
240
ccgctcacca agtccgaccc cagcgtggcg ttgctgcagc aggcgcaggg ccagtgggtg
300
cagggtgggca gaaccgaggt ggtccggagc agcctgcac ccgtgttctc caaggtcttc
360
acggtggact actacttcga ggaggtgcag aggctgcgct ttgaggtgta cgacacgcat
420
gggccccagcg gcttcagctg tcaggaggac gatttcctgg ggggcatgga gtgcaccctg
480
gggcagccag cccaaaagtg gcttctgcaa gtcgtgatga gagtgtctgt tgatgtgctg
540
ggccctgctg gacactgcgc taagcacttc ctgtgctgca cggaatcttc acaccttgcc
600
aggacggggtc cttctttttt attgaggtat gatgacctct gcctccctg ggcgactgct
660
ggcgccgtga ggtggtggac gtgcaggggt ggccacacgc agggatggca gattgtggcc
720
cagaagaagg tgaccgcgcc gctgctgctc aagtttgga ggaacgctgg caagtccacc
780
atcacggtga tcgccgagga catctcgggg aacaacggct acgtggagct ctccttcgg
840
gccaggaagc tggacgacaa ggacctcttc agcaagtccg accccttcct ggagctctac
900
aggggtcaacg acgaccaggg cttgcagctg gtgtacagga cggaggtggt gaagaacaac
960
ctgaacccca gctgggagcc gttcaaagtc tctctgagtt ccctatgcag ctgtgatgtt
1020

```

caccgacctc taaagtccct ggtctgggat tacgactcca gtgggaagca tgacttcac  
1080  
ggcgagttca ccagcacttt ccaggagatg caggaagga cggcaaacc tgggcaggag  
1140  
atgcagtggg actgtatcaa cccaagtat cgggacaaga agaagaatta taagaactca  
1200  
ggagtggtag tgctggctga cctcaagttc cacagggtgt actccttctt ggactatata  
1260  
atgggtggct gccagatcag cttcaccgtg gccattgact tcaccgcctc caatggggac  
1320  
ccgaggagca gccagtccct gcactacatc agtccccgac agcccaacca ctacctgcag  
1380  
gccctgcgtg cagtgggagg catctgccag gactatgaca gtgataagag gttcccagct  
1440  
tttggtttg gggctcgaat ccccccaac ttcgaggtgt cccatgactt tgctatcaat  
1500  
ttcaaccctg aggacgatga gtgtgaaggc atccaggcg tggaggaggc ctaccagaac  
1560  
tgctgcccc ggggtccagct ctacggcccc accaacgtgg cggccatcat ctccaagggtg  
1620  
gctgaaccag ccagcgaga gcagagcacc ggccaagcca cgaagtattc agtactgctg  
1680  
gtgctcactg acggtgtggt gagtgatatg gcagagaccc gaacagccat tgtgcgagcc  
1740  
tcccgcctgc ccatgtcaat catcatcgtg ggtgtgggca acgctgactt ctctgacatg  
1800  
aggctactgg acggagatga tgggtccctg cgttgccac ggggtgagcc cgcgtccgg  
1860  
gacatcgtac agttcgtgcc cttccgggag ctcaagaacg catcccctgc ggcgtggcc  
1920  
aagtgcgtgc tggccgaggt cccgaagcag gtggtggagt actacagcca cagaggcctg  
1980  
cccccgagaa gcctgggtgt cctgcccga gaggccagcc caggctgcac accgtgaaga  
2040  
tgtgagggc gtaggggtgg ggcagtgagg aatgggtccg tacagcctct gtctgcaaca  
2100  
tgcttggggt cccttaagct cctccgacc tcccagaagc ctccagtccc caccaggccc  
2160  
cactcccagt cctcctggga tctgtctggc ttgggcccgg ctctggggcc cccaaggccg  
2220  
aagggtgaca aaatacaggc ccccatgcct ggccctgcct gagccagggtg ggtggaggga  
2280  
gggagatcat gagggacttg gagggagctg ggagttcatc cacgggagac cctgccccga  
2340  
tgagaagggg cagggactgg gggctctgct ttgctctaa cctttgtggg ggaggggccag  
2400  
caaggcagtc cccccagcc cgagaaagcc tgggggaccc agacacctgt cccacagtc  
2460  
aaagcctggg gaccagaca tctgtcccc acagtcagcc tctgtccct gctggtgccc  
2520  
ccacaccac ctacctgtg ctttttgccg tgggcctct gcacctgggt ccatggggtc  
2580  
tgcggggtct ggggggtct cctggcctgt gggttctgcc ggtggggctt caggagtaat  
2640

aaagtgtcac cctatccttg taaa  
2664

<210> 3774

<211> 678

<212> PRT

<213> Homo sapiens

<400> 3774

Ala	Pro	Gly	Arg	Arg	Ser	Gly	Lys	Arg	Gly	His	Ala	Trp	Ala	Gly	His
1				5					10					15	
His	Phe	Pro	Gly	Ala	Ala	Ala	Ala	Arg	Leu	Ala	Gly	Ser	Gly	Pro	Ser
		20						25					30		
Val	Arg	Pro	Ala	Gly	Pro	Pro	Asn	Ala	Gly	Ser	Met	Ser	Ala	Gly	Ser
		35					40					45			
Glu	Arg	Gly	Ala	Ala	Ala	Thr	Pro	Gly	Gly	Leu	Pro	Ala	Pro	Cys	Ala
		50				55					60				
Ser	Lys	Val	Glu	Leu	Arg	Leu	Ser	Cys	Arg	His	Leu	Leu	Asp	Arg	Asp
65					70					75				80	
Pro	Leu	Thr	Lys	Ser	Asp	Pro	Ser	Val	Ala	Leu	Leu	Gln	Gln	Ala	Gln
				85					90					95	
Gly	Gln	Trp	Val	Gln	Val	Gly	Arg	Thr	Glu	Val	Val	Arg	Ser	Ser	Leu
			100					105					110		
His	Pro	Val	Phe	Ser	Lys	Val	Phe	Thr	Val	Asp	Tyr	Tyr	Phe	Glu	Glu
		115					120					125			
Val	Gln	Arg	Leu	Arg	Phe	Glu	Val	Tyr	Asp	Thr	His	Gly	Pro	Ser	Gly
		130				135					140				
Phe	Ser	Cys	Gln	Glu	Asp	Asp	Phe	Leu	Gly	Gly	Met	Glu	Cys	Thr	Leu
145					150					155				160	
Gly	Gln	Pro	Ala	Gln	Lys	Trp	Leu	Leu	Gln	Val	Val	Met	Arg	Val	Ser
				165					170					175	
Val	Asp	Val	Leu	Gly	Pro	Ala	Gly	His	Cys	Ala	Lys	His	Phe	Leu	Cys
			180					185					190		
Cys	Thr	Glu	Ser	Ser	His	Leu	Ala	Arg	Thr	Gly	Pro	Ser	Phe	Leu	Leu
		195					200					205			
Arg	Tyr	Asp	Asp	Leu	Cys	Leu	Pro	Trp	Ala	Thr	Ala	Gly	Ala	Val	Arg
	210				215						220				
Trp	Trp	Thr	Cys	Arg	Gly	Gly	His	Thr	Gln	Gly	Trp	Gln	Ile	Val	Ala
225				230						235				240	
Gln	Lys	Lys	Val	Thr	Arg	Pro	Leu	Leu	Leu	Lys	Phe	Gly	Arg	Asn	Ala
				245					250					255	
Gly	Lys	Ser	Thr	Ile	Thr	Val	Ile	Ala	Glu	Asp	Ile	Ser	Gly	Asn	Asn
		260						265					270		
Gly	Tyr	Val	Glu	Leu	Ser	Phe	Arg	Ala	Arg	Lys	Leu	Asp	Asp	Lys	Asp
		275					280					285			
Leu	Phe	Ser	Lys	Ser	Asp	Pro	Phe	Leu	Glu	Leu	Tyr	Arg	Val	Asn	Asp
		290				295					300				
Asp	Gln	Gly	Leu	Gln	Leu	Val	Tyr	Arg	Thr	Glu	Val	Val	Lys	Asn	Asn
305					310					315				320	
Leu	Asn	Pro	Ser	Trp	Glu	Pro	Phe	Lys	Val	Ser	Leu	Ser	Ser	Leu	Cys
				325					330					335	
Ser	Cys	Asp	Val	His	Arg	Pro	Leu	Lys	Phe	Leu	Val	Trp	Asp	Tyr	Asp
			340					345					350		
Ser	Ser	Gly	Lys	His	Asp	Phe	Ile	Gly	Glu	Phe	Thr	Ser	Thr	Phe	Gln

355	360	365
Glu Met Gln Glu Gly Thr Ala Asn Pro Gly Gln Glu Met Gln Trp Asp		
370	375	380
Cys Ile Asn Pro Lys Tyr Arg Asp Lys Lys Lys Asn Tyr Lys Asn Ser		
385	390	395
Gly Val Val Val Leu Ala Asp Leu Lys Phe His Arg Val Tyr Ser Phe		
405	410	415
Leu Asp Tyr Ile Met Gly Gly Cys Gln Ile Ser Phe Thr Val Ala Ile		
420	425	430
Asp Phe Thr Ala Ser Asn Gly Asp Pro Arg Ser Ser Gln Ser Leu His		
435	440	445
Tyr Ile Ser Pro Arg Gln Pro Asn His Tyr Leu Gln Ala Leu Arg Ala		
450	455	460
Val Gly Gly Ile Cys Gln Asp Tyr Asp Ser Asp Lys Arg Phe Pro Ala		
465	470	475
Phe Gly Phe Gly Ala Arg Ile Pro Pro Asn Phe Glu Val Ser His Asp		
485	490	495
Phe Ala Ile Asn Phe Asn Pro Glu Asp Asp Glu Cys Glu Gly Ile Gln		
500	505	510
Gly Val Val Glu Ala Tyr Gln Asn Cys Leu Pro Arg Val Gln Leu Tyr		
515	520	525
Gly Pro Thr Asn Val Ala Pro Ile Ile Ser Lys Val Ala Glu Pro Ala		
530	535	540
Gln Arg Glu Gln Ser Thr Gly Gln Ala Thr Lys Tyr Ser Val Leu Leu		
545	550	555
Val Leu Thr Asp Gly Val Val Ser Asp Met Ala Glu Thr Arg Thr Ala		
565	570	575
Ile Val Arg Ala Ser Arg Leu Pro Met Ser Ile Ile Ile Val Gly Val		
580	585	590
Gly Asn Ala Asp Phe Ser Asp Met Arg Leu Leu Asp Gly Asp Asp Gly		
595	600	605
Pro Leu Arg Cys Pro Arg Gly Glu Pro Ala Leu Arg Asp Ile Val Gln		
610	615	620
Phe Val Pro Phe Arg Glu Leu Lys Asn Ala Ser Pro Ala Ala Leu Ala		
625	630	635
Lys Cys Val Leu Ala Glu Val Pro Lys Gln Val Val Glu Tyr Tyr Ser		
645	650	655
His Arg Gly Leu Pro Pro Arg Ser Leu Gly Val Pro Ala Gly Glu Ala		
660	665	670
Ser Pro Gly Cys Thr Pro		
675		

&lt;210&gt; 3775

&lt;211&gt; 549

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3775

gaattcgagg tcctgagaga ctgtgagagc cccaactcca ttagtattat gggcctcaat  
60

acttccccggg ttgcaattac cctgaagccc caagacccta tggaacagaa cgtagctgag  
120

ctgttgcaagt tcctgctggt gaaggatcag agcaagtacc ctatccggga gtctgaaatg  
180

cgggaatata ttgttaaaga atatcgcaac cagtttcctg agatactcag gcgagcagca  
 240  
 gccacactgg agtgcatttt taggtttgaa ttgagagaac ttgaccctga ggcacacacc  
 300  
 tacattctgt taaacaaact gggacctgtg ccctttgaag ggtagaaga gagcccaaat  
 360  
 gggccaaaga tgggcctcct gatgatgatt ctaggccaaa tattcctgaa tggcaaccaa  
 420  
 gccaaaggagg ctgagatttg ggaaatgctc tggaggatgg ggggtgcagcg ggaaaggagg  
 480  
 ctttccattt ttgggaaccc aaagagactt ctgtctgtgg agtttgtatg gcagcgttac  
 540  
 ttagactac  
 549

<210> 3776

<211> 183

<212> PRT

<213> Homo sapiens

<400> 3776

Glu	Phe	Glu	Val	Leu	Arg	Asp	Cys	Glu	Ser	Pro	Asn	Ser	Ile	Ser	Ile
1				5					10					15	
Met	Gly	Leu	Asn	Thr	Ser	Arg	Val	Ala	Ile	Thr	Leu	Lys	Pro	Gln	Asp
			20					25					30		
Pro	Met	Glu	Gln	Asn	Val	Ala	Glu	Leu	Leu	Gln	Phe	Leu	Leu	Val	Lys
		35					40					45			
Asp	Gln	Ser	Lys	Tyr	Pro	Ile	Arg	Glu	Ser	Glu	Met	Arg	Glu	Tyr	Ile
		50				55				60					
Val	Lys	Glu	Tyr	Arg	Asn	Gln	Phe	Pro	Glu	Ile	Leu	Arg	Arg	Ala	Ala
65					70					75				80	
Ala	His	Leu	Glu	Cys	Ile	Phe	Arg	Phe	Glu	Leu	Arg	Glu	Leu	Asp	Pro
				85					90					95	
Glu	Ala	His	Thr	Tyr	Ile	Leu	Leu	Asn	Lys	Leu	Gly	Pro	Val	Pro	Phe
			100					105					110		
Glu	Gly	Leu	Glu	Glu	Ser	Pro	Asn	Gly	Pro	Lys	Met	Gly	Leu	Leu	Met
		115					120					125			
Met	Ile	Leu	Gly	Gln	Ile	Phe	Leu	Asn	Gly	Asn	Gln	Ala	Lys	Glu	Ala
		130				135						140			
Glu	Ile	Trp	Glu	Met	Leu	Trp	Arg	Met	Gly	Val	Gln	Arg	Glu	Arg	Arg
145					150					155				160	
Leu	Ser	Ile	Phe	Gly	Asn	Pro	Lys	Arg	Leu	Leu	Ser	Val	Glu	Phe	Val
				165					170					175	
Trp	Gln	Arg	Tyr	Leu	Asp	Tyr									
				180											

<210> 3777

<211> 4915

<212> DNA

<213> Homo sapiens

<400> 3777

ngaggctaca agatcatagt tcatttaaag ccccatccc tgcaagtggg gctttctacc  
 60

aatatgaatc ttttcaacct ggaccgtttt cgctttgaga aaaggaataa gattgaggaa  
120  
gcgcccgaag caaccctca accttcccag cctggccctt cttcaccaat ttctcttagt  
180  
gctgaagagg agaatgctga aggggaagtt agcagggcaa acactcctga ttcagatata  
240  
actgaaaaaa cagaagattc tagtgttcca gaaactccag ataatgaaag aaaagcaagt  
300  
atatcatatt tcaaaaatca aagaggaata cagtatatgt atttgtcttc tgatagttaa  
360  
gatgtcgttt ccccaaattg ctccaatata gttcaagaga aaacattcaa caaagataca  
420  
gtgattatag tttctgagcc atctgaagat gaagagtccc aaggccttcc taccatggca  
480  
cgtagaaatg atgatatttc agaactggaa gacctttcgg aattggaaga ccttaaagat  
540  
gctaaacttc agactttgaa ggaacttttt ccacaaagaa gtgacaatga tttacttaag  
600  
ttgattgaat caacaagcac tatggatgga gcaattgctg ctgccttgct gatgtttggt  
660  
gatgcaggtg gtgggcccag gaaaagaaaa ttatcttctt cttcagagcc atatgaggaa  
720  
gatgaattta atgatgatca atctataaaa aagacaagac tggatcatgg agaggaatca  
780  
aatgagtctg cagaatctag cagtaattgg gaaaagcagg aaagtattgt actgaaattg  
840  
caaaaggaat ttcccaattt tgataaacag gaacttagag aagtactcaa ggaacatgaa  
900  
tggatgtaca cagaagcttt agaatctcta aaagtgtttg cagaagacca agatatgcaa  
960  
tatgcatcac aaagtgaggt tccaaatgga aaagaagttt cttcaagaag tcaaaattac  
1020  
cctaaaaatg caactaaaac aaaactaaaa cagaaatttt caatgaaagc acaaaatggc  
1080  
tttaacaaga aacgtaaaaa aaatgttttt aatccaaaga gagttgttga agactctgaa  
1140  
tatgattcag gttctgatgt cggtagtcca ctagatgagg actatagtag tggatgaagaa  
1200  
gtgatggagg atggctataa aggtaaaatt cttcacttcc ttcaagatgc ttcaattggt  
1260  
gaacttactt tgattcctca gtgttctcag aaaaaggctc agaagataac agaactccgg  
1320  
ccctttaata gttgggaggc tctgttcaca aagatgtcca aaactaatgg cttatcagaa  
1380  
gatttgatat ggcactgtaa aacactgatc caagaaagag atgtagttat aaggcttatg  
1440  
aacaatgtg aagacatttc aaataaattg accaaacaag ttaccatgct tactggaaat  
1500  
ggaggtggat ggaacataga acaacttccc attctaaacc agagtttgct actcaagccc  
1560  
tatcagaagg ttggtttgaa ttggctggca ttggtacata aacatggact taatggcatt  
1620  
ttggcagatg aaatgggect aggaaaaact attcaagcca ttgcatttct ggcatacctc  
1680

tatcaggagg gtaataatgg tcctcatttg atcggtgttc cagcttcaac tatagataac  
1740  
tggttaaggg aagttaattt atggtgcoct actttgaagg tcctctgtta ctatgggtct  
1800  
caagaagaac gtaaacaat tagatttaac attcatagta gatatgaaga ttacaatgta  
1860  
attgtgacca catataactg tgcgatcagc agttctgatg atcgtagtct gtttcgacgg  
1920  
ctgaaactta attacgcaat ttttgatgag ggccatatgc tgaagaatat gggctccatt  
1980  
cgctaccagc accttatgac aattaatgca aataaccgtt tgctgctcac aggcacacct  
2040  
gtacagaaca atctgttaga actcatgtcg ctgttgaatt ttgttatgcc acacatgttt  
2100  
agtagtagca ccagtgaat acgaagaatg ttttcctcta agacaaaatc agcagatgag  
2160  
caaagcatat atgaaaagga gagaatagca catgcaaac aaattataaa gccatttatt  
2220  
ctcagaagag taaaagaaga ggttctcaag cagttacccc ccaagaaaga tcgaattgag  
2280  
ttgtgtgcaa tgtcggagag gcaggagcaa ctctatttgg gtcttttcaa cagattgaaa  
2340  
aaatctatca ataacttggc cacagaaaaa aacacagaaa tgtgcaatgt catgatgcag  
2400  
ttgaggaaaa tggccaatca tcctttatta catcgccaat attacacagc tgaaaaactc  
2460  
aaggaaatgt ctcagcttat gctaaaggaa cctacacatt gtgaggctaa ccctgacctg  
2520  
atctttgaag atatggaagt tatgacagac ttcgaactac atgtactttg taaacagtac  
2580  
cgacacatta ataactttca gttagacatg gacttgattt tagattctgg aaaatttcga  
2640  
gttttaggat gcatcttgtc tgaattgaaa cagaaggggtg atagagtgtg gttatttagc  
2700  
caatttacca tgatgctgga tatcttagag gttctattaa aacatcatca gcataggtac  
2760  
ctcagattag atggaaagac tcagatttct gaaaggattc atctaattga tgagttaat  
2820  
accgatatgg atatctttgt gtttctgcta tcaacaaaag ctggtggatt aggaataaat  
2880  
ctgacttcag caaatgttgt tatacttcac gatattgact gtaatcctta taatgacaaa  
2940  
caagcagaag atagatgcca tagagtaggc cagactaaag aagtactagt tataaaacta  
3000  
ataagccaag ggacgattga agaatccatg ctaaaaatta accaacagaa attgaaacta  
3060  
gaacaggata tgactacagt agatgaaggt gatgaaggga gtatgccagc agatatagcc  
3120  
acattactaa aaacatcaat gggcctgtga aataagaact gtgaactctc aattgatgag  
3180  
gaaatatcaa cttggtgcac tcaaggacat ttacattatg atgaccatgg ggtttatgaa  
3240  
catttataac tttttataat ttccatatta catttctcat agtatggaca actttttgcc  
3300

actaactgaa ttctccaaat actcacacgt gaaatttcaa aaaagaagcc acaaatatgt  
3360  
agttctgaag atgttgaata atcattttac aaagcagttt tctgaatggg gattagttgg  
3420  
tgattgtttg taacaaatat gctaattgctt tagaaatgtc agtatttttg taattatttc  
3480  
tacctccaaa tatatatata ttgtctttca ctggataatg tgtgtagatt ttacatgtg  
3540  
ccttatttga caatgcttat gtcttgtttt tgcttgtctc atttgaagtt cttttttatt  
3600  
atgttaaaga atgcagctgt atagattata tagctttcat tttattgcta tttgaagcag  
3660  
atgttcacca atgtcagcaa gaactcaacc tgaatttaa ggtggcattc catatactaa  
3720  
catccccag gtcctctcaa gtacttctgc tgaacaaat ttatttggct aggcactaag  
3780  
ttgttttcca gtgaatagta actaaagaag cccctacctt gctccatgga ttaattcctt  
3840  
ctgttcattt tccaactgca ctaattgtgc atattactct gcctaactct gtgcatgttt  
3900  
tcattgattt cccctctccg gcttttgctt ctcttgaac tgttgcccag tcacttctgc  
3960  
tccaattctc ttctctctta aatagtagtt tattactgcc acatctccat gcacagcaa  
4020  
aatgttggtg acatttttct agcctggcag aacagattac ttaaagctat ttcatttcaa  
4080  
agcagactga atgtgacttc atctaaaggc agcattaggt actgcatgga aataggtcat  
4140  
taacttgaaa ctcttatcaa aatatatttt accagtttcc agaatttcca gtacaggacc  
4200  
gcctgaagag agagccattg ttcaattcca attcagtggt agtgacaaaag tgaaatttag  
4260  
aagtgaagtt gtctatttga tatttaactc tttattaaat ctttctttaa atttctgcct  
4320  
gtcagcttat attgctgttt ttattataca tcagtttctt tgtataactt gtgagttcca  
4380  
tgtgttttgt ttttattatg taaatatcat tataaataaa cttatttata aatcaaagat  
4440  
ttgttaattt ttggaaatca tgcttttcaa agcatcctaa cttgctaaga tgctaggtag  
4500  
tacgaccctc tggatttgga aggcaaataa aactcttaca gtgattattt agatattaaa  
4560  
gactgagaac tcacggctta accccagtct tgatgggata ttgaacagac tgaatatatt  
4620  
ttaccattac agggctaaaa ggagtcttca tgtgttaata ctacctctt gtacatcact  
4680  
atacccaaat cagttattca aattgtagg aattttacct tttaaaatct cataatggat  
4740  
atctcatgtt ttctgtatta atgtattttc aatgataggc tgtttctttt tttgttgta  
4800  
ttgttggtgt tgttatatcc atacttttat ctctaataa atgtagttgg gttcttctg  
4860  
taatgcgcta ttatgtcttg ggcttaataa aaatatttgt gatcataaaa aaaa  
4915



<210> 3778  
 <211> 1049  
 <212> PRT  
 <213> Homo sapiens

<400> 3778  
 Xaa Gly Tyr Lys Ile Ile Val His Leu Lys Pro Pro Ser Leu Gln Val  
 1 5 10 15  
 Val Leu Ser Thr Asn Met Asn Leu Phe Asn Leu Asp Arg Phe Arg Phe  
 20 25 30  
 Glu Lys Arg Asn Lys Ile Glu Glu Ala Pro Glu Ala Thr Pro Gln Pro  
 35 40 45  
 Ser Gln Pro Gly Pro Ser Ser Pro Ile Ser Leu Ser Ala Glu Glu Glu  
 50 55 60  
 Asn Ala Glu Gly Glu Val Ser Arg Ala Asn Thr Pro Asp Ser Asp Ile  
 65 70 75 80  
 Thr Glu Lys Thr Glu Asp Ser Ser Val Pro Glu Thr Pro Asp Asn Glu  
 85 90 95  
 Arg Lys Ala Ser Ile Ser Tyr Phe Lys Asn Gln Arg Gly Ile Gln Tyr  
 100 105 110  
 Ile Asp Leu Ser Ser Asp Ser Glu Asp Val Val Ser Pro Asn Cys Ser  
 115 120 125  
 Asn Thr Val Gln Glu Lys Thr Phe Asn Lys Asp Thr Val Ile Ile Val  
 130 135 140  
 Ser Glu Pro Ser Glu Asp Glu Glu Ser Gln Gly Leu Pro Thr Met Ala  
 145 150 155 160  
 Arg Arg Asn Asp Asp Ile Ser Glu Leu Glu Asp Leu Ser Glu Leu Glu  
 165 170 175  
 Asp Leu Lys Asp Ala Lys Leu Gln Thr Leu Lys Glu Leu Phe Pro Gln  
 180 185 190  
 Arg Ser Asp Asn Asp Leu Leu Lys Leu Ile Glu Ser Thr Ser Thr Met  
 195 200 205  
 Asp Gly Ala Ile Ala Ala Ala Leu Leu Met Phe Gly Asp Ala Gly Gly  
 210 215 220  
 Gly Pro Arg Lys Arg Lys Leu Ser Ser Ser Glu Pro Tyr Glu Glu  
 225 230 235 240  
 Asp Glu Phe Asn Asp Asp Gln Ser Ile Lys Lys Thr Arg Leu Asp His  
 245 250 255  
 Gly Glu Glu Ser Asn Glu Ser Ala Glu Ser Ser Ser Asn Trp Glu Lys  
 260 265 270  
 Gln Glu Ser Ile Val Leu Lys Leu Gln Lys Glu Phe Pro Asn Phe Asp  
 275 280 285  
 Lys Gln Glu Leu Arg Glu Val Leu Lys Glu His Glu Trp Met Tyr Thr  
 290 295 300  
 Glu Ala Leu Glu Ser Leu Lys Val Phe Ala Glu Asp Gln Asp Met Gln  
 305 310 315 320  
 Tyr Ala Ser Gln Ser Glu Val Pro Asn Gly Lys Glu Val Ser Ser Arg  
 325 330 335  
 Ser Gln Asn Tyr Pro Lys Asn Ala Thr Lys Thr Lys Leu Lys Gln Lys  
 340 345 350  
 Phe Ser Met Lys Ala Gln Asn Gly Phe Asn Lys Lys Arg Lys Lys Asn  
 355 360 365  
 Val Phe Asn Pro Lys Arg Val Val Glu Asp Ser Glu Tyr Asp Ser Gly

370		375		380
Ser Asp Val Gly Ser Ser Leu Asp Glu Asp Tyr Ser Ser Gly Glu Glu				
385		390		395
Val Met Glu Asp Gly Tyr Lys Gly Lys Ile Leu His Phe Leu Gln Asp				400
	405		410	415
Ala Ser Ile Gly Glu Leu Thr Leu Ile Pro Gln Cys Ser Gln Lys Lys				
	420		425	430
Ala Gln Lys Ile Thr Glu Leu Arg Pro Phe Asn Ser Trp Glu Ala Leu				
	435		440	445
Phe Thr Lys Met Ser Lys Thr Asn Gly Leu Ser Glu Asp Leu Ile Trp				
	450		455	460
His Cys Lys Thr Leu Ile Gln Glu Arg Asp Val Val Ile Arg Leu Met				
	465		470	475
Asn Lys Cys Glu Asp Ile Ser Asn Lys Leu Thr Lys Gln Val Thr Met				
	485		490	495
Leu Thr Gly Asn Gly Gly Gly Trp Asn Ile Glu Gln Pro Ser Ile Leu				
	500		505	510
Asn Gln Ser Leu Ser Leu Lys Pro Tyr Gln Lys Val Gly Leu Asn Trp				
	515		520	525
Leu Ala Leu Val His Lys His Gly Leu Asn Gly Ile Leu Ala Asp Glu				
	530		535	540
Met Gly Leu Gly Lys Thr Ile Gln Ala Ile Ala Phe Leu Ala Tyr Leu				
	545		550	555
Tyr Gln Glu Gly Asn Asn Gly Pro His Leu Ile Val Val Pro Ala Ser				
	565		570	575
Thr Ile Asp Asn Trp Leu Arg Glu Val Asn Leu Trp Cys Pro Thr Leu				
	580		585	590
Lys Val Leu Cys Tyr Tyr Gly Ser Gln Glu Glu Arg Lys Gln Ile Arg				
	595		600	605
Phe Asn Ile His Ser Arg Tyr Glu Asp Tyr Asn Val Ile Val Thr Thr				
	610		615	620
Tyr Asn Cys Ala Ile Ser Ser Ser Asp Asp Arg Ser Leu Phe Arg Arg				
	625		630	635
Leu Lys Leu Asn Tyr Ala Ile Phe Asp Glu Gly His Met Leu Lys Asn				
	645		650	655
Met Gly Ser Ile Arg Tyr Gln His Leu Met Thr Ile Asn Ala Asn Asn				
	660		665	670
Arg Leu Leu Leu Thr Gly Thr Pro Val Gln Asn Asn Leu Leu Glu Leu				
	675		680	685
Met Ser Leu Leu Asn Phe Val Met Pro His Met Phe Ser Ser Ser Thr				
	690		695	700
Ser Glu Ile Arg Arg Met Phe Ser Ser Lys Thr Lys Ser Ala Asp Glu				
	705		710	715
Gln Ser Ile Tyr Glu Lys Glu Arg Ile Ala His Ala Lys Gln Ile Ile				
	725		730	735
Lys Pro Phe Ile Leu Arg Arg Val Lys Glu Glu Val Leu Lys Gln Leu				
	740		745	750
Pro Pro Lys Lys Asp Arg Ile Glu Leu Cys Ala Met Ser Glu Arg Gln				
	755		760	765
Glu Gln Leu Tyr Leu Gly Leu Phe Asn Arg Leu Lys Lys Ser Ile Asn				
	770		775	780
Asn Leu Val Thr Glu Lys Asn Thr Glu Met Cys Asn Val Met Met Gln				
	785		790	795
Leu Arg Lys Met Ala Asn His Pro Leu Leu His Arg Gln Tyr Tyr Thr				800

805 810 815  
 Ala Glu Lys Leu Lys Glu Met Ser Gln Leu Met Leu Lys Glu Pro Thr  
 820 825 830  
 His Cys Glu Ala Asn Pro Asp Leu Ile Phe Glu Asp Met Glu Val Met  
 835 840 845  
 Thr Asp Phe Glu Leu His Val Leu Cys Lys Gln Tyr Arg His Ile Asn  
 850 855 860  
 Asn Phe Gln Leu Asp Met Asp Leu Ile Leu Asp Ser Gly Lys Phe Arg  
 865 870 875 880  
 Val Leu Gly Cys Ile Leu Ser Glu Leu Lys Gln Lys Gly Asp Arg Val  
 885 890 895  
 Val Leu Phe Ser Gln Phe Thr Met Met Leu Asp Ile Leu Glu Val Leu  
 900 905 910  
 Leu Lys His His Gln His Arg Tyr Leu Arg Leu Asp Gly Lys Thr Gln  
 915 920 925  
 Ile Ser Glu Arg Ile His Leu Ile Asp Glu Phe Asn Thr Asp Met Asp  
 930 935 940  
 Ile Phe Val Phe Leu Leu Ser Thr Lys Ala Gly Gly Leu Gly Ile Asn  
 945 950 955 960  
 Leu Thr Ser Ala Asn Val Val Ile Leu His Asp Ile Asp Cys Asn Pro  
 965 970 975  
 Tyr Asn Asp Lys Gln Ala Glu Asp Arg Cys His Arg Val Gly Gln Thr  
 980 985 990  
 Lys Glu Val Leu Val Ile Lys Leu Ile Ser Gln Gly Thr Ile Glu Glu  
 995 1000 1005  
 Ser Met Leu Lys Ile Asn Gln Lys Leu Lys Leu Glu Gln Asp Met  
 1010 1015 1020  
 Thr Thr Val Asp Glu Gly Asp Glu Gly Ser Met Pro Ala Asp Ile Ala  
 1025 1030 1035 1040  
 Thr Leu Leu Lys Thr Ser Met Gly Leu  
 1045

&lt;210&gt; 3779

&lt;211&gt; 1853

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3779

catagggaaa aggaagacat aaaaatcact aaggaaagaa ctccagaaag tgaagaagaa  
 60  
 aatgtagaat gggaaactaa tagagatgat tctgacaatg gagatattaa ttatgattat  
 120  
 gttcatgaat tgtcattgga aatgaagcgt cagaagatac agagggaatt aatgaagctg  
 180  
 gaacaagaaa acatggagaa gagagaagaa attatcatta aaaaggaggt ttcaccagaa  
 240  
 gtgggttagat caaaattgtc cccgtcacct tctctaagaa agtctagcaa atctccgaag  
 300  
 cgaaaatcaa gcccgaagtc gtcttcagct agcaagaaag ataggaagac atctgcagta  
 360  
 tcttctcccc tgttggaacca gcagagaaat tcaaaaacca accaaagtaa aaagaaagga  
 420  
 ccacgtactc ctagtccacc cctcctata ccagaagata tcgctctggg gaaaaaatac  
 480

aaagaaaaat ataaagtaaa agacaggata gaagaaaaaa caagagatgg aaaggacaga  
540  
ggacgagatt ttgaacgaca aagagaaaag agagacaagc caaggtctac ttccccagca  
600  
ggacagcatc attctcctat atcttctaga catcactcat ctctctcaca atcaggatca  
660  
tctattcaaa gacattctcc ttctctctgt cgaaaaagaa ctctctcacc atcttatcag  
720  
cggacactaa ctccaccttt acgacgtctt gcctctcctt atctctcaca ttctttgtcg  
780  
tctccccaga gaaagcagag tcctccaaga catcgctctc caatgcgaga gaaagggaga  
840  
catgatcatg aacgaacttc acagtctcat gatcgacgcc acgaagggag ggaagatact  
900  
aggggcaaac gagacagaga aaaggactca agagaagaac gagaatatga acaggatcag  
960  
agctcttcta gagaccacag agatgacaga gaacctcgag atggtcggga tcggagagat  
1020  
gccagagata ctagggaccg aagggaacta agagactcca gagacatgcy ggactcaagg  
1080  
gagatgagag attatagcag agataccaaa gagagccgtg atcccagaga ttctcgggtcc  
1140  
actcgtgatg cccatgacta cagggaccgt gaaggtcgag atactcatcg aaaggaggat  
1200  
acatatccag aagaatcccg gagttatggc cgaaaccatt tgagagaaga aagttctcgt  
1260  
acggaaataa ggaatgagtc cagaaatgag tctcgaagtg aaattagaaa tgaccgaatg  
1320  
ggccgaagta gggggagggt tcctgagtta cctgaaaagg gaagtcgagg ctcaagaggt  
1380  
tctcaaattg atagtcacag tagtaatagc aactatcatg acagctggga aactcgaagt  
1440  
agctatcctg aaagagatag atatcctgaa agagacaaca gagatcaagc aagggtattct  
1500  
tcctttgaga gaagacatgg agagcgagac cgtcgtgacc agagagagag atcaaagacc  
1560  
aagctcacca attcgacatc aggaagga tgacgagctt gagcgtgatg aaagaagaga  
1620  
ggaacgaaga gtagacaggt ccattcaaga tctgggtcat ttgatagcag agacaggctt  
1680  
caagaacgag atcgatatga acacgacaga gagcgcgagn nagagaggag agatacgagg  
1740  
cagagagaat gggaccgaga tgctgataaa gattggccac gcaacaggga tcgagataga  
1800  
ttgcgagaac gagaacgaga gagagaacga gacaaaagga gagacttggc tcy  
1853

&lt;210&gt; 3780

&lt;211&gt; 530

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3780

His Arg Glu Lys Glu Asp Ile Lys Ile Thr Lys Glu Arg Thr Pro Glu

1		5		10		15									
Ser	Glu	Glu	Glu	Asn	Val	Glu	Trp	Glu	Thr	Asn	Arg	Asp	Asp	Ser	Asp
		20						25					30		
Asn	Gly	Asp	Ile	Asn	Tyr	Asp	Tyr	Val	His	Glu	Leu	Ser	Leu	Glu	Met
		35					40					45			
Lys	Arg	Gln	Lys	Ile	Gln	Arg	Glu	Leu	Met	Lys	Leu	Glu	Gln	Glu	Asn
		50				55					60				
Met	Glu	Lys	Arg	Glu	Glu	Ile	Ile	Ile	Lys	Lys	Glu	Val	Ser	Pro	Glu
65					70					75				80	
Val	Val	Arg	Ser	Lys	Leu	Ser	Pro	Ser	Pro	Ser	Leu	Arg	Lys	Ser	Ser
				85					90					95	
Lys	Ser	Pro	Lys	Arg	Lys	Ser	Ser	Pro	Lys	Ser	Ser	Ser	Ala	Ser	Lys
			100					105					110		
Lys	Asp	Arg	Lys	Thr	Ser	Ala	Val	Ser	Ser	Pro	Leu	Leu	Asp	Gln	Gln
		115					120					125			
Arg	Asn	Ser	Lys	Thr	Asn	Gln	Ser	Lys	Lys	Lys	Gly	Pro	Arg	Thr	Pro
		130				135					140				
Ser	Pro	Pro	Pro	Pro	Ile	Pro	Glu	Asp	Ile	Ala	Leu	Gly	Lys	Lys	Tyr
145					150					155				160	
Lys	Glu	Lys	Tyr	Lys	Val	Lys	Asp	Arg	Ile	Glu	Glu	Lys	Thr	Arg	Asp
			165					170						175	
Gly	Lys	Asp	Arg	Gly	Arg	Asp	Phe	Glu	Arg	Gln	Arg	Glu	Lys	Arg	Asp
			180					185					190		
Lys	Pro	Arg	Ser	Thr	Ser	Pro	Ala	Gly	Gln	His	His	Ser	Pro	Ile	Ser
		195				200						205			
Ser	Arg	His	His	Ser	Ser	Ser	Ser	Gln	Ser	Gly	Ser	Ser	Ile	Gln	Arg
		210				215					220				
His	Ser	Pro	Ser	Pro	Arg	Arg	Lys	Arg	Thr	Pro	Ser	Pro	Ser	Tyr	Gln
225					230					235				240	
Arg	Thr	Leu	Thr	Pro	Pro	Leu	Arg	Arg	Ser	Ala	Ser	Pro	Tyr	Pro	Ser
				245					250					255	
His	Ser	Leu	Ser	Ser	Pro	Gln	Arg	Lys	Gln	Ser	Pro	Pro	Arg	His	Arg
		260						265					270		
Ser	Pro	Met	Arg	Glu	Lys	Gly	Arg	His	Asp	His	Glu	Arg	Thr	Ser	Gln
		275					280					285			
Ser	His	Asp	Arg	Arg	His	Glu	Gly	Arg	Glu	Asp	Thr	Arg	Gly	Lys	Arg
		290				295					300				
Asp	Arg	Glu	Lys	Asp	Ser	Arg	Glu	Glu	Arg	Glu	Tyr	Glu	Gln	Asp	Gln
305					310					315				320	
Ser	Ser	Ser	Arg	Asp	His	Arg	Asp	Asp	Arg	Glu	Pro	Arg	Asp	Gly	Arg
				325					330					335	
Asp	Arg	Arg	Asp	Ala	Arg	Asp	Thr	Arg	Asp	Arg	Arg	Glu	Leu	Arg	Asp
			340					345					350		
Ser	Arg	Asp	Met	Arg	Asp	Ser	Arg	Glu	Met	Arg	Asp	Tyr	Ser	Arg	Asp
		355				360						365			
Thr	Lys	Glu	Ser	Arg	Asp	Pro	Arg	Asp	Ser	Arg	Ser	Thr	Arg	Asp	Ala
		370				375					380				
His	Asp	Tyr	Arg	Asp	Arg	Glu	Gly	Arg	Asp	Thr	His	Arg	Lys	Glu	Asp
385					390					395				400	
Thr	Tyr	Pro	Glu	Glu	Ser	Arg	Ser	Tyr	Gly	Arg	Asn	His	Leu	Arg	Glu
				405					410					415	
Glu	Ser	Ser	Arg	Thr	Glu	Ile	Arg	Asn	Glu	Ser	Arg	Asn	Glu	Ser	Arg
			420					425					430		
Ser	Glu	Ile	Arg	Asn	Asp	Arg	Met	Gly	Arg	Ser	Arg	Gly	Arg	Val	Pro

435                      440                      445  
 Glu Leu Pro Glu Lys Gly Ser Arg Gly Ser Arg Gly Ser Gln Ile Asp  
 450                      455                      460  
 Ser His Ser Ser Asn Ser Asn Tyr His Asp Ser Trp Glu Thr Arg Ser  
 465                      470                      475                      480  
 Ser Tyr Pro Glu Arg Asp Arg Tyr Pro Glu Arg Asp Asn Arg Asp Gln  
 485                      490                      495  
 Ala Arg Asp Ser Ser Phe Glu Arg Arg His Gly Glu Arg Asp Arg Arg  
 500                      505                      510  
 Asp Gln Arg Glu Arg Ser Lys Thr Lys Leu Thr Asn Ser Thr Ser Gly  
 515                      520                      525  
 Lys Glu  
 530

&lt;210&gt; 3781

&lt;211&gt; 1364

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3781

ctgagcacgt cccagctgga tctcgtctgc cactgtcacc catagcttct tccccatggt  
 60  
 gctttccatg tgtcacacac cactgtgtg acccagggtc ggggtcaaga gtagcctggg  
 120  
 gccaaagcct cccacccatg agcggagaag tcctccccag gcctcacctt gcctggcgca  
 180  
 tgggtccctcc catgagcttt gctttcagcc tttcagcttc ctccacaggg tggcagtggg  
 240  
 tgtaactcat ccattcatcc ctccatccct tcattcattc actcacagcc aacagacgtt  
 300  
 tttaaaaaat tagccagtgc tatactagag ctggctccca aggaccgct accgcattgc  
 360  
 cttttgaaac aaaacaatga acacgttggt aaaggggccc tgcttggtg tgggtgacaa  
 420  
 ggcgagatcc ctgagtcagg tcaggcttgt agattcgagt tctgttgca gtttgattgc  
 480  
 cctctgact ttgtcccctg tacaactagg ttgattagga atcagccaac tgtgttcct  
 540  
 ggggtgctcag aaatcacagc ccatatcctc gagaggccaa aatgagagcc aggggggtcc  
 600  
 aagatgagtg gctgcttctg gccgggagca ggttttcaag tcattagaac actctggcct  
 660  
 ttcctggagg tgatcttgga gccattcctg cccctttcaa gaggagttaa tgcccagctc  
 720  
 tgtttagaga aaattggggg agatgattgc tcatgtgggt gataagaatc acctcccggt  
 780  
 caggggtctg catagaacac tccataggca aacctgggtg tccaaggcac gtggcatttt  
 840  
 gcaaactctg ggtgcagctc cgagctgtcc tgcagggtccc agaccagggt agaactccct  
 900  
 gaggttcctgc tgcctgggtc ggggggtgagg cataggtctt ggggggtcaa cctggaattc  
 960  
 tgaatgtcat tcattgcatt ggagaggaag gagagtaggc aaagccaaga ccctggaact  
 1020

ggacaaactc gtgtggttta aagtcactgt gagagctgga gttgagtctg cctacggggg  
 1080  
 aggactgcgg cacctacctc gcagggctgt tgtgaggagc aatgtaaccg tgattttgaa  
 1140  
 ctgtgattct ggaagggcgg tgtgcgtgtc cccgggggtg tgccagggga gtgaggagaa  
 1200  
 aaggccaggg agacagcctc actcaggcag ctgagtggga gagcatttat ctctaaacct  
 1260  
 ggaggggtat atggtgggac aggaggaatt tgggcaggaa ctttcatgct aggggtttgg  
 1320  
 gggactcgct ggacaatgcc cctggacccc ccgggggtac gcgt  
 1364

<210> 3782

<211> 112

<212> PRT

<213> Homo sapiens

<400> 3782

Met	Asn	Asp	Ile	Gln	Asn	Ser	Arg	Leu	Asn	Pro	Gln	Asp	Leu	Cys	Leu
1				5					10					15	
Thr	Pro	Asp	Pro	Gly	Ser	Arg	Asn	Ser	Gly	Ser	Ser	His	Leu	Val	Trp
			20					25					30		
Asp	Leu	Gln	Asp	Ser	Ser	Glu	Leu	His	Pro	Glu	Phe	Ala	Lys	Cys	His
	35					40					45				
Val	Pro	Trp	Thr	Pro	Arg	Phe	Ala	Tyr	Gly	Val	Phe	Tyr	Ala	Asp	Pro
	50				55					60					
Cys	Thr	Gly	Gly	Asp	Ser	Tyr	His	Pro	His	Glu	Gln	Ser	Ser	Pro	Pro
65				70					75					80	
Ile	Phe	Ser	Lys	Gln	Ser	Trp	Ala	Leu	Thr	Pro	Leu	Glu	Arg	Gly	Arg
			85					90					95		
Asn	Gly	Ser	Lys	Ile	Thr	Ser	Arg	Lys	Gly	Gln	Ser	Val	Leu	Met	Thr
			100					105					110		

<210> 3783

<211> 4137

<212> DNA

<213> Homo sapiens

<400> 3783

nncaaggcgc ctgcgactcg gtcccaggtc ggccgggcggc gcgcgggcggg ctgcgcgcggg  
 60  
 ggccccggcg cgccgggcgg cgcagtagc agcgcgcgga cccacgccac ggccaggagc  
 120  
 ccagagcagc gcggccacac tgcccagggg tcggccctcg gccccggcgc tcggagcgcg  
 180  
 gcggctgcct gggctttaat ggctgctccg cggagcagcg cctagggctg gaaggcggct  
 240  
 gcggctcagg aagtcacccg agcaagcctc cttcgggggc ggccgcaccc gccgcggcgc  
 300  
 gctccatggg ggcgcgctcc cccggggcgg cccgctgacc cgggacgccg gggcccgctc  
 360  
 gctcgccggc cgcgcgctcc ggccatgaac tgagcccgcg ggccagcccc gcgcctgctc  
 420

cgcccgcgcc tttcttctcg cgctctctcc gcccgccgcc ggcgggcccg gctccccggg  
480  
ggctgcggcg ccccgggctc ggcgggccgc gggccccggg gcgcggggcg gcggcgggcg  
540  
ggggcgcgcg gctccggggc cgcgcgctgc accatgaact accagcagca gctggccaac  
600  
tcggtgcca tccgggcca gatccagcgc ttcgagtcgg tccaccccaa catctactcc  
660  
atctacgagc tgctggagcg cgtggaggag ccggtgctgc agaaccagat ccgggagcac  
720  
gtcatcgcca tcgaagatgc cttcgtgaac agccaggaat ggacgctgag tcgatctgtc  
780  
ccggagctca aagtgggaat tgtgggtaac ttggccagcg gcaagtctgc cctggtgcac  
840  
cggtaacctga cgggcacata tgtccaggag gagtctccgg aagggtggcag gttcaagaaa  
900  
gagattgtcg ttgatggaca gagctatctg ctgctgatca gagatgaagg gggccccccg  
960  
gagcgcgagt ttgcatgtg ggtggacgct gttatatttg tcttcagctt ggaggatgaa  
1020  
ataagtttcc agaccgttta ccactactac agtcgaatgg ccaactatcg gaacacgagc  
1080  
gagattcctc tggttctggt gggaaccag gatgccataa gttctgctaa cccgagggtc  
1140  
atcgatgacg ccagggcgag gaagctctcc aacgacctga aacggtgcac gtactacgag  
1200  
acgtgtgcta catacgggct gaatgtggag aggtctctcc aggacgttgc ccagaagatt  
1260  
gttgccacaa ggaagaagca gcagctgtcc ataggacct gcaagtcgct acctaatctt  
1320  
cccagccatt cctccgtctg ttccgcgcag gtgtctgccc tgcacatcag ccagacaagt  
1380  
aatggaggtg ggagtttaag cgactattcc tctccggtc catcgactcc cagcaccagc  
1440  
cagaaggaac ttcggatcga tgttcctccc actgccaaca cggccacgcc cgttcgaag  
1500  
cagtctaagc gccggtccaa cctgttcacc tctcgaaaag ggagcgaccc agacaaagag  
1560  
aagaaaggcc tggagagtcg tgcggacagc attgggagcg gccgagccat cccaattaaa  
1620  
cagggcatgc tgttgaagcg aagtggcaaa tcgttgaata aagagtggaa aaagaaatat  
1680  
gtcaccctgt gtgacaatgg cgtgctgacc tatcatccca gtttacatga ttacatgcag  
1740  
aatgttcatg gtaaggagat tgacctctg agaaccactg tgaaagtccc agggaagagg  
1800  
ccaccccgag ccacgtcagc ctgcgcaccc atctccagcc ctaaaaccaa tggcctatcc  
1860  
aaggacatga gcagtttaca catctcacc aattcagaca cagggctggg tgactccgta  
1920  
tgctccagcc ccagtatctc cagcaccacc agccccaagc tcgacccgcc cccctccct  
1980  
cacgccaaca gaaagaagca ccgaaggaag aaaagcacta gcaacttcaa agccgacggc  
2040



ctgtccggca ctgctgaaga acaagaagaa aattttgagt ttatcattgt gtccctcact  
2100  
ggccaaacat ggcaactttga agccacgacg tatgaggagc gggacgcctg ggtccaagcc  
2160  
atcgagagcc agatcctggc cagcctgcag tcgtgcgaga gcagcaagaa caagtcccgg  
2220  
ctgacgagcc agagcgaggc catggccctg cagtcgatcc ggaacatgcg cgggaactcc  
2280  
cactgtgtgg actgcgagac ccagaatccc aactgggcca gtttgaactt gggagccctc  
2340  
atgtgcatcg aatgctcagg gatccaccgg aatcttgga cccaccttcc ccgagtccga  
2400  
tctctggacc tggatgactg gccaatcgag ctcatcaagg tgatgtcatc catcggaac  
2460  
gagctagcca acagcgtctg ggaagagagc agccaggggc ggacgaaacc atcggtagac  
2520  
tccacaaggg aagagaagga acggtggatc cgtgccaaagt acgagcagaa gctcttcctg  
2580  
gccccgctgc cctgcacgga gctgtccctg ggccagcacc tgctgcgggc caccgcccac  
2640  
gaggacctgc ggacggccat cctgctgctg gcacacggct cccgggacga ggtgaacgag  
2700  
acctgcgggg agggagacgg ccgcacggcg ctgcatctgg cctgccgcaa ggggaatgtg  
2760  
gtcctggcgc agctcctgat ctggtacgga gtggacgtca cggcccagaga tgcccacggg  
2820  
aacacagctc tggcctacgc ccggcaggcc tccagccagg agtgcatcga cgtgctgctg  
2880  
cagtaaggct gccccagca gcgcttcgtg ctcatggcca cccctaacct gtccaggaga  
2940  
aacaataacc ggaacaacag cagtgggagg gtgcccacca tcatctgagg aacagccgtg  
3000  
cccgcctgct cgccgcacct gggacgcggc agcctcgccg cattctcgct cagaagtcgc  
3060  
agcacgtgag tcccgtcgca tcccctccct cttcctgggt gccacctccc tcccgccac  
3120  
ccactctcac cccaaacaaa atcacaaaac ctggacatcc ctcaaggggc gaagaggcgg  
3180  
ccgggagact gcagaagtgg ctccctttca taaactcccc taaaccacac acaggagaga  
3240  
gcgacgggccc tcggcccttt gatgatagca catggcgag gacccttgct ctggtggcac  
3300  
aagggatggg gacgcgaggg ggaggggagg cgaggaacaa ggagaagggg caactttcct  
3360  
taactggcag ttgagcacat agtacatttc ccctctacca aacggaacac ttggattcca  
3420  
tctcttctct gaggagctcg acggcataaa tcagaagcaa gcacagagtt tgtcaggttt  
3480  
gaagccccta tgatggtgtg tgtcaaatca gttgtagcta atctgtccag ggagaatact  
3540  
ggcttcatta cacttgata gccgagttct tcccgcatta ctgctgttta atagaacgtg  
3600  
attagtcac gccgagaaga aagcatatta gccgaggagg tagtcacgcg gcacgcgccg  
3660

gtgattgcc a cgatgtgatt gcaatactct tagaagcacc atattatccc agacatgttc  
 3720  
 ttccaagccc ttggagccct ctctaaattc actgtcatca tttagtatct gtttaatttt  
 3780  
 tcagtccaaa gagaggaaat cagtcgctga gtattatttg actccggtct ccttggtgca  
 3840  
 aaaaacaaaat gggaaaaata aataagaata actcagaaac tcaaaaggaa accacaaatt  
 3900  
 cagctaataa tagcatttcg agtatatttc gtaaactaag gaaatacaca aaaggctgtt  
 3960  
 ttttccgact gtaagagata tttgatgtcc ttttgccgag gtggatgtgt tagtctcagg  
 4020  
 ccctcctgga ccacgttgcc caagtcacac aggtctctgt gttatgtatt tagataagat  
 4080  
 gtgtgaaaat atatttgaat aaaagaagtt cataaaaaaa aaaaaaaaaa aaaaaaa  
 4137

<210> 3784

<211> 804

<212> PRT

<213> Homo sapiens

<400> 3784

Met	Asn	Tyr	Gln	Gln	Gln	Leu	Ala	Asn	Ser	Ala	Ala	Ile	Arg	Ala	Glu	1	5	10	15
Ile	Gln	Arg	Phe	Glu	Ser	Val	His	Pro	Asn	Ile	Tyr	Ser	Ile	Tyr	Glu	20	25	30	
Leu	Leu	Glu	Arg	Val	Glu	Glu	Pro	Val	Leu	Gln	Asn	Gln	Ile	Arg	Glu	35	40	45	
His	Val	Ile	Ala	Ile	Glu	Asp	Ala	Phe	Val	Asn	Ser	Gln	Glu	Trp	Thr	50	55	60	
Leu	Ser	Arg	Ser	Val	Pro	Glu	Leu	Lys	Val	Gly	Ile	Val	Gly	Asn	Leu	65	70	75	80
Ala	Ser	Gly	Lys	Ser	Ala	Leu	Val	His	Arg	Tyr	Leu	Thr	Gly	Thr	Tyr	85	90	95	
Val	Gln	Glu	Glu	Ser	Pro	Glu	Gly	Gly	Arg	Phe	Lys	Lys	Glu	Ile	Val	100	105	110	
Val	Asp	Gly	Gln	Ser	Tyr	Leu	Leu	Leu	Ile	Arg	Asp	Glu	Gly	Gly	Pro	115	120	125	
Pro	Glu	Ala	Gln	Phe	Ala	Met	Trp	Val	Asp	Ala	Val	Ile	Phe	Val	Phe	130	135	140	
Ser	Leu	Glu	Asp	Glu	Ile	Ser	Phe	Gln	Thr	Val	Tyr	His	Tyr	Tyr	Ser	145	150	155	160
Arg	Met	Ala	Asn	Tyr	Arg	Asn	Thr	Ser	Glu	Ile	Pro	Leu	Val	Leu	Val	165	170	175	
Gly	Thr	Gln	Asp	Ala	Ile	Ser	Ser	Ala	Asn	Pro	Arg	Val	Ile	Asp	Asp	180	185	190	
Ala	Arg	Ala	Arg	Lys	Leu	Ser	Asn	Asp	Leu	Lys	Arg	Cys	Thr	Tyr	Tyr	195	200	205	
Glu	Thr	Cys	Ala	Thr	Tyr	Gly	Leu	Asn	Val	Glu	Arg	Val	Phe	Gln	Asp	210	215	220	
Val	Ala	Gln	Lys	Ile	Val	Ala	Thr	Arg	Lys	Lys	Gln	Gln	Leu	Ser	Ile	225	230	235	240
Gly	Pro	Cys	Lys	Ser	Leu	Pro	Asn	Ser	Pro	Ser	His	Ser	Ser	Val	Cys				

2931

675	680	685
Asp Glu Asp Leu Arg Thr Ala Ile Leu Leu Leu Ala His Gly Ser Arg		
690	695	700
Asp Glu Val Asn Glu Thr Cys Gly Glu Gly Asp Gly Arg Thr Ala Leu		
705	710	715
His Leu Ala Cys Arg Lys Gly Asn Val Val Leu Ala Gln Leu Leu Ile		
725	730	735
Trp Tyr Gly Val Asp Val Thr Ala Arg Asp Ala His Gly Asn Thr Ala		
740	745	750
Leu Ala Tyr Ala Arg Gln Ala Ser Ser Gln Glu Cys Ile Asp Val Leu		
755	760	765
Leu Gln Tyr Gly Cys Pro Asp Glu Arg Phe Val Leu Met Ala Thr Pro		
770	775	780
Asn Leu Ser Arg Arg Asn Asn Asn Arg Asn Asn Ser Ser Gly Arg Val		
785	790	795
Pro Thr Ile Ile		800

&lt;210&gt; 3785

&lt;211&gt; 1901

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3785

```

tttttttttt tttttttttt tttttttttt tttttttttt ttctgggtcaa actccctttt
60
tattaagggt tatcaagctg tacacgggtcc ctacctgct ccgctccgag ttcgggcagc
120
gcaattcacc actctcccaa agccggacca cagctgggtg aggggtggga cagagagtag
180
gagcagtccc agcatgcagt gcagcagccc aaagcctcgg gcgaggcatc gcccttcac
240
ccccttcagg gcacagcgag atgcgggcca gagctctttt gctgggacgt acacagccaa
300
ggtcacccctc cagcccggtc tgtcccatgt gcagggtgatg gggggtacga taagcagcaa
360
tgagggccca ggaagacctc agtctctctg gggcccatcc taaaagatgg caagggcagc
420
aaagtatttc catcctgctc ctacaattta gaaaccttct tttttagtgt caaaatatag
480
cgttgagggg agctggacgc taggggtctc accctaacgc aaagcaaaag ccgaacggaa
540
cgggagcaag cgaacagaac aggagcaagc agcacacaca ggccagtgat gtgcaagaag
600
cggagagagg tgagccggct gcagcactgg gcgagaactg cgggtgaggt aagggccaca
660
gcctgacctg ctcatctatt gagggggcta ggggaagggtg caggggttga ggggtccaggc
720
ccaacctccc cactccacag ttggcacagg ttctccctgc ttggcagctt ctatcgtagg
780
cagccctctg gggacttgca ggggtaggtg taaaggtggc agtactgggg ctgggctggg
840
gaccagtttc tagcaccaca ctctgagcca agggggtcct ggggatgagg ctagagtccc
900

```

gtgtgccctc ggttcctagg ccccaaattc ctctcctggg gctgtggcaa gcccagtggt  
 960  
 ggcacctccc ttggccaggc acagacacac aaacaccaca cacgtggggc cagggaaacac  
 1020  
 tcagaggagc cgtcccatgg caggcagacg ggatggcagg gcagcgggtg cctccatcct  
 1080  
 gggccacagg aacctgctc agccttgtct ataccttgtg cacctgaggg ggtagctcat  
 1140  
 cctccgagcc ctcttcgggc acgggctcag ggtgccttga tgccgactgc ccatcttctg  
 1200  
 cccacctccc aagaggcagc cgagagaaat gagagggaac cctggggcact gtgccaggat  
 1260  
 ctgtgatgcc accgtagcgc ctctggaagc ccccatgcag ggcggtggtc tcaggagctc  
 1320  
 caggccgggg tgctgcacag ggatagctag cagagcgagg gatagactgg ggggcccggg  
 1380  
 cgccctctcc cccttcatca ggggcgcttt ctccactctc atcactctcc cggcggtgcc  
 1440  
 atacatgccg ctcaggttca gcctgggcct gctgcttgtg gagctgggtc atatagaggg  
 1500  
 catgcaggct catctctgtg gatgcattt ctgacagcac caggctctgc agctgtcctt  
 1560  
 cccacacgct gctcccggag ctggctgtcc tggcatccac cccagagcct gtcatggtgc  
 1620  
 tgtgagcccc gcctgtgggc gcctgcccgg gttgcagcgg ggagaaggag cgcagggcag  
 1680  
 aggcgacttc agccctgtgc ctggagccct gcaggtctct gggcagtgga gggccccggc  
 1740  
 aggatgagcc agctaccaca tttgcgataa ggctcagggg ctcagactca gattgtaagg  
 1800  
 actggataga cgtaaagagg gcattttcag ggagcagacc cccttgggcg aggctagcag  
 1860  
 ctgctccatc ccgctgaacc tgctccttga ggaagcctag g  
 1901

&lt;210&gt; 3786

&lt;211&gt; 168

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3786

Met	Thr	Gly	Ser	Gly	Val	Asp	Ala	Arg	Thr	Ala	Ser	Ser	Gly	Ser	Ser
1				5					10					15	
Val	Trp	Glu	Gly	Gln	Leu	Gln	Ser	Leu	Val	Leu	Ser	Glu	Tyr	Ala	Ser
			20					25					30		
Thr	Glu	Met	Ser	Leu	His	Ala	Leu	Tyr	Met	His	Gln	Leu	His	Lys	Gln
			35				40					45			
Gln	Ala	Gln	Ala	Glu	Pro	Glu	Arg	His	Val	Trp	His	Arg	Arg	Glu	Ser
			50				55				60				
Asp	Glu	Ser	Gly	Glu	Ser	Ala	Pro	Asp	Glu	Gly	Gly	Glu	Gly	Ala	Arg
65						70				75				80	
Ala	Pro	Gln	Ser	Ile	Pro	Arg	Ser	Ala	Ser	Tyr	Pro	Cys	Ala	Ala	Pro
				85					90					95	
Arg	Pro	Gly	Ala	Pro	Glu	Thr	Thr	Ala	Leu	His	Gly	Gly	Phe	Gln	Arg

```
<210> 3787
<211> 717
<212> DNA
<213> Homo sapiens
```

```
<210> 3788
<211> 113
<212> PRT
<213> Homo sapiens
```

2934

50		55		60															
Ser	Leu	Leu	Ser	Trp	Leu	Ser	Pro	Ser	Leu	Leu	Val	Cys	Asn	Lys	Gly				
65					70					75					80				
Ala	Ala	Val	Ile	Thr	His	Glu	Gln	Cys	Leu	Ala	Gln	Ser	Gly	Arg	Ser				
			85						90					95					
Ala	Val	Leu	Val	His	Met	Glu	Glu	Pro	Lys	Gln	Ala	Pro	Cys	Thr	Val				
			100					105						110					
Leu																			

&lt;210&gt; 3789

&lt;211&gt; 4341

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3789

```

ngaattcatt ttcaaaggag gcgaactacc tgtgccctaa ccttggaagc tggagaaaag
60
ttactgtcct caactgacct gaaaactaaa gactctgtgg gtaggagaat cagtcaactt
120
caggacagct ggaaagacat ggagccccag ctggcagaga tgattaagca gttccagagc
180
actgtagaga cctgggacca gtgtgaaaag aaaatcaagg agttgaaaag caggctgcaa
240
gttttaaagg cacaaagtga agatcctctt ccagagcttc acgaggacct ccataacgaa
300
aaagagctga ttaaggaact agaacagtct ttggctagct ggactcagaa cttgaaagaa
360
cttcaaacta tgaaggcgga cttaaccggg cacgttctcg tggaagatgt gatgggtttg
420
aaggagcaaa tagagcattt gcacagacaa tgggaggacc tctgcttaag ggtggccata
480
cgtaaacagg agattgaaga cagactcaat acatgggttg tattcaatga aaaaaataaa
540
gagttgtgtg cctggctggt gcagatggaa aacaaagttc tacagacagt ggacattagt
600
attgaagaaa tgattgaaaa gttacagaag gactgcatgg aagaaataaa cttgtttagt
660
gaaaacaagt tacagttaaa gcagatgggt gaccagttga tcaaggccag caacaaatca
720
agagcagctg agatcgatga caagctcaac aaaattaacg atcgttggca acatcttttt
780
gatgtcatcg gatcaagggg gaagaagctg aaggagacct ttgcttttat tcagcagttg
840
gacaaaaaca tgagcaacct tcgcacctgg ttggctcgaa ttgagtctga gctttccaag
900
cctgttggtt atgatgtctg cgatgatcaa gagatccaga agaggctcgc tgagcagcag
960
gatctacagc gagatattga acaacacagc gcaggggtgg agtccgtggt taacatctgt
1020
gacgtcctac tgcacgactc cgatgcctgt gcaaagaga cagagtgtga ctcgatccag
1080
cagaccacca ggagcctgga cagacgctgg aggaacattt gtgcatgtc catggagcgg
1140

```

cgcatgaaaa tcgaggagac gtggcgccctg tggcagaagt ttttagacga ctattctcgc  
1200  
tttgaggact ggctcaagtc agctgagagg acggcagcct gcccaaattc ctcagagggtg  
1260  
ttgtacacga gtgccaaaga ggaactgaag aggtttgagg cctttcagcg gcagattcat  
1320  
gagcggtca ctcagctgga gctcatcaac aagcagtacc ggcggtggc ccgggagaac  
1380  
cgcacagaca cgccagcag gctgaagcag atgggtccacg agggcaacca gcgctgggac  
1440  
aaccttcaga ggcggtcac agccgtcctg cggagactca ggcatttcac caaccagagg  
1500  
gaagaatttg agggcaccag ggagagcatt ctggtgtggc tcacagagat ggacctgcag  
1560  
ctgaccaacg tggagcactt ctcagagagt gacgccgatg acaagatgcg ccaactgaat  
1620  
ggcttccaac aggaaattac attaaatacc aacaagattg atcagctcat tgtgtttggg  
1680  
gagcagctga ttcagaagag cgagccctg gatgctgtgc tgattgagga tgagctggag  
1740  
gaactccacc gctactgccg ggaggtgttt ggaagggctc cccggttcca ccggcggtc  
1800  
acctcctgca ctccgggctt ggaagatgaa aaggaggcct ctgagaatga aacagacatg  
1860  
gaagacccca gagaaatcca gactgattct tggcgtaaac ggggagagag cgaggaaccg  
1920  
tcatctctc agtccctgtg tcatctagtg gcccagggc acgagcggtc tggctgcgag  
1980  
accctgtgca gcgtggactc catccccctg gagtgggacc acacaggcga cgtggggggc  
2040  
tctctctctc acgaagagga cgaggagggc ccatactaca gcgcactgtc aggtaaatcc  
2100  
atttcggatg gccactcgtg gcatgttccc gacagccctt cctgtcccg gcatcactac  
2160  
aagcaaatgg aaggtgacag gaatgttcca cctgttcccc ctgcgtccag cacccttat  
2220  
aaaccacctt atggaaagct actattacct ccaggcacgg atggtggcaa agaaggcccc  
2280  
cgagtctgta atggcaaccc acagcaggaa gacgggggac tggccggtat cacagagcag  
2340  
cagtcagggtg ccttcgacag atgggagatg attcaagcac aggagcttca caataagctc  
2400  
aaaataaaac aaaatttgca acagctgaac tctgatata ggcctatcac tacttggtg  
2460  
aaaaaaactg aagcagagct ggaaatgtta aagatggcaa agcctccctc tgatatccag  
2520  
gaaatagaac tgagagtga gagactgcag gagatactga aagcctttga cacttacaag  
2580  
gcattagtgg tctctgtcaa cgtgagcagc aaggaatttc tgcaaaccga gagccccga  
2640  
tcacagagc tccaaagtag actccgccag ctgagcctgc tctgggaagc agcacagggc  
2700  
gcagtggaca gctggagagg gggttacga cagtcgctca tgcaagtcca ggacttcac  
2760



cagttgagtc aaaatctgct gctgtgggta gcgagtgcc aagaaccggag gcagaaggct  
2820  
catgtcaccg atccaaaggc agacccccgg gctctcctag agtgtcggag ggaactaatg  
2880  
caactggaaa aggagctggt agaacgtcaa cctcaagtgg acatgttaca ggagatttca  
2940  
aacagccttc tcattaaggg acatggagaa gactgtattg aagctgaaga aaagggtgcat  
3000  
gttattgaga agaaactcaa acagttacgg gagcaagtgt cccaagattt aatggccttg  
3060  
cagggaaacc agaaccacgc ctcacccctg ccagcttcg acgaggtaga ctcgggggac  
3120  
cagcctcctg caacatccgt gccagctccc cgagcaaagc agttcagagc agtgagaact  
3180  
acagaaggcg aggaggagac agagagcagg gtccccggca gcacacggcc acagcgctcc  
3240  
ttcctctcaa ggggtggtccg ggcagcccta cccctgcagc tgctcctcct gctgctgctg  
3300  
ctcctggcct gcctgctgcc ctccctcgaa gaagactaca gctgcactca ggccaacaac  
3360  
tttggccggt ccttttacc catgctgagg tacaccaatg ggccaccccc cacatagagg  
3420  
gcatagctgg ccacagtgt acaccacctg cctgattgcc aaggggtgcc agcacgtggc  
3480  
cccagaccaa tctgagtgc ttagtggttg caagggtccg ggacctgtgc agacttcttc  
3540  
tgggcttacc cagcacgggc tccctggagc ccagggcagc tttcagattg tgttctccc  
3600  
caggagcagg gaacctgtgt ggcagggtgcc ccgggtattt tggcagaact agttgattag  
3660  
tttagggatc tctggaaatg tcagtttctt gaagagccaa gcactttgtg aattctgggt  
3720  
tgtttgtaaa acagcattat tataatgtag gtatgggtcaa tgagcagtgg tgtccatcac  
3780  
atatattata gaagcaagcg agcacattcc accctagaaa tggttcagaa actcataggc  
3840  
acccttagct gatggaaaca atcaatcata ttttaacgc ttagaatcag ttttactcca  
3900  
atcagctggc aattttgagc tgccgggtat acacaaaaat gttctgttca gtacctagct  
3960  
ctgctctttt atattgcttt aaatttttaa agaaattata ttgcatggat gtggttattt  
4020  
gtgcatattt tttacaatg cccaatctgt atgaataatg taaacttcga tttttttta  
4080  
aaaaaattag attttagctg gagcttttga ctaatgtaaa gtaaatgcc aactaccgac  
4140  
ttgataggga tgtttttgta agttaatttt ctaagacttt ttccatcca aagtgatgct  
4200  
ttgctttggg ttttaactgt ttggccacgg cgggggtggg ggcggggggg tggtagagaa  
4260  
acttgaagct gtttgtgata tgtacaactc agatgtttct cattaaaaaa caaaattagc  
4320  
cagaaaaaaa aaaaaaaaaa a  
4341

<210> 3790  
 <211> 1092  
 <212> PRT  
 <213> Homo sapiens

<400> 3790  
 Met Glu Pro Gln Leu Ala Glu Met Ile Lys Gln Phe Gln Ser Thr Val  
 1 5 10 15  
 Glu Thr Trp Asp Gln Cys Glu Lys Lys Ile Lys Glu Leu Lys Ser Arg  
 20 25 30  
 Leu Gln Val Leu Lys Ala Gln Ser Glu Asp Pro Leu Pro Glu Leu His  
 35 40 45  
 Glu Asp Leu His Asn Glu Lys Glu Leu Ile Lys Glu Leu Glu Gln Ser  
 50 55 60  
 Leu Ala Ser Trp Thr Gln Asn Leu Lys Glu Leu Gln Thr Met Lys Ala  
 65 70 75 80  
 Asp Leu Thr Arg His Val Leu Val Glu Asp Val Met Val Leu Lys Glu  
 85 90 95  
 Gln Ile Glu His Leu His Arg Gln Trp Glu Asp Leu Cys Leu Arg Val  
 100 105 110  
 Ala Ile Arg Lys Gln Glu Ile Glu Asp Arg Leu Asn Thr Trp Val Val  
 115 120 125  
 Phe Asn Glu Lys Asn Lys Glu Leu Cys Ala Trp Leu Val Gln Met Glu  
 130 135 140  
 Asn Lys Val Leu Gln Thr Val Asp Ile Ser Ile Glu Glu Met Ile Glu  
 145 150 155 160  
 Lys Leu Gln Lys Asp Cys Met Glu Glu Ile Asn Leu Phe Ser Glu Asn  
 165 170 175  
 Lys Leu Gln Leu Lys Gln Met Gly Asp Gln Leu Ile Lys Ala Ser Asn  
 180 185 190  
 Lys Ser Arg Ala Ala Glu Ile Asp Asp Lys Leu Asn Lys Ile Asn Asp  
 195 200 205  
 Arg Trp Gln His Leu Phe Asp Val Ile Gly Ser Arg Val Lys Lys Leu  
 210 215 220  
 Lys Glu Thr Phe Ala Phe Ile Gln Gln Leu Asp Lys Asn Met Ser Asn  
 225 230 235 240  
 Leu Arg Thr Trp Leu Ala Arg Ile Glu Ser Glu Leu Ser Lys Pro Val  
 245 250 255  
 Val Tyr Asp Val Cys Asp Asp Gln Glu Ile Gln Lys Arg Leu Ala Glu  
 260 265 270  
 Gln Gln Asp Leu Gln Arg Asp Ile Glu Gln His Ser Ala Gly Val Glu  
 275 280 285  
 Ser Val Phe Asn Ile Cys Asp Val Leu Leu His Asp Ser Asp Ala Cys  
 290 295 300  
 Ala Asn Glu Thr Glu Cys Asp Ser Ile Gln Gln Thr Thr Arg Ser Leu  
 305 310 315 320  
 Asp Arg Arg Trp Arg Asn Ile Cys Ala Met Ser Met Glu Arg Arg Met  
 325 330 335  
 Lys Ile Glu Glu Thr Trp Arg Leu Trp Gln Lys Phe Leu Asp Asp Tyr  
 340 345 350  
 Ser Arg Phe Glu Asp Trp Leu Lys Ser Ala Glu Arg Thr Ala Ala Cys  
 355 360 365  
 Pro Asn Ser Ser Glu Val Leu Tyr Thr Ser Ala Lys Glu Glu Leu Lys

370					375					380					
Arg	Phe	Glu	Ala	Phe	Gln	Arg	Gln	Ile	His	Glu	Arg	Leu	Thr	Gln	Leu
385					390					395					400
Glu	Leu	Ile	Asn	Lys	Gln	Tyr	Arg	Arg	Leu	Ala	Arg	Glu	Asn	Arg	Thr
				405					410					415	
Asp	Thr	Ala	Ser	Arg	Leu	Lys	Gln	Met	Val	His	Glu	Gly	Asn	Gln	Arg
			420					425					430		
Trp	Asp	Asn	Leu	Gln	Arg	Arg	Val	Thr	Ala	Val	Leu	Arg	Arg	Leu	Arg
			435				440						445		
His	Phe	Thr	Asn	Gln	Arg	Glu	Glu	Phe	Glu	Gly	Thr	Arg	Glu	Ser	Ile
			450				455						460		
Leu	Val	Trp	Leu	Thr	Glu	Met	Asp	Leu	Gln	Leu	Thr	Asn	Val	Glu	His
465					470					475					480
Phe	Ser	Glu	Ser	Asp	Ala	Asp	Asp	Lys	Met	Arg	Gln	Leu	Asn	Gly	Phe
				485					490					495	
Gln	Gln	Glu	Ile	Thr	Leu	Asn	Thr	Asn	Lys	Ile	Asp	Gln	Leu	Ile	Val
			500					505					510		
Phe	Gly	Glu	Gln	Leu	Ile	Gln	Lys	Ser	Glu	Pro	Leu	Asp	Ala	Val	Leu
			515				520						525		
Ile	Glu	Asp	Glu	Leu	Glu	Glu	Leu	His	Arg	Tyr	Cys	Gln	Glu	Val	Phe
			530				535						540		
Gly	Arg	Val	Ser	Arg	Phe	His	Arg	Arg	Leu	Thr	Ser	Cys	Thr	Pro	Gly
545					550					555					560
Leu	Glu	Asp	Glu	Lys	Glu	Ala	Ser	Glu	Asn	Glu	Thr	Asp	Met	Glu	Asp
				565					570					575	
Pro	Arg	Glu	Ile	Gln	Thr	Asp	Ser	Trp	Arg	Lys	Arg	Gly	Glu	Ser	Glu
			580					585					590		
Glu	Pro	Ser	Ser	Pro	Gln	Ser	Leu	Cys	His	Leu	Val	Ala	Pro	Gly	His
			595				600						605		
Glu	Arg	Ser	Gly	Cys	Glu	Thr	Pro	Val	Ser	Val	Asp	Ser	Ile	Pro	Leu
			610				615						620		
Glu	Trp	Asp	His	Thr	Gly	Asp	Val	Gly	Gly	Ser	Ser	Ser	His	Glu	Glu
625					630					635					640
Asp	Glu	Glu	Gly	Pro	Tyr	Tyr	Ser	Ala	Leu	Ser	Gly	Lys	Ser	Ile	Ser
				645					650					655	
Asp	Gly	His	Ser	Trp	His	Val	Pro	Asp	Ser	Pro	Ser	Cys	Pro	Glu	His
			660					665					670		
His	Tyr	Lys	Gln	Met	Glu	Gly	Asp	Arg	Asn	Val	Pro	Pro	Val	Pro	Pro
			675				680						685		
Ala	Ser	Ser	Thr	Pro	Tyr	Lys	Pro	Pro	Tyr	Gly	Lys	Leu	Leu	Leu	Pro
			690				695						700		
Pro	Gly	Thr	Asp	Gly	Gly	Lys	Glu	Gly	Pro	Arg	Val	Leu	Asn	Gly	Asn
7															

805 810 815  
 Val Val Ser Val Asn Val Ser Ser Lys Glu Phe Leu Gln Thr Glu Ser  
 820 825 830  
 Pro Glu Ser Thr Glu Leu Gln Ser Arg Leu Arg Gln Leu Ser Leu Leu  
 835 840 845  
 Trp Glu Ala Ala Gln Gly Ala Val Asp Ser Trp Arg Gly Gly Leu Arg  
 850 855 860  
 Gln Ser Leu Met Gln Cys Gln Asp Phe His Gln Leu Ser Gln Asn Leu  
 865 870 875 880  
 Leu Leu Trp Leu Ala Ser Ala Lys Asn Arg Arg Gln Lys Ala His Val  
 885 890 895  
 Thr Asp Pro Lys Ala Asp Pro Arg Ala Leu Leu Glu Cys Arg Arg Glu  
 900 905 910  
 Leu Met Gln Leu Glu Lys Glu Leu Val Glu Arg Gln Pro Gln Val Asp  
 915 920 925  
 Met Leu Gln Glu Ile Ser Asn Ser Leu Leu Ile Lys Gly His Gly Glu  
 930 935 940  
 Asp Cys Ile Glu Ala Glu Glu Lys Val His Val Ile Glu Lys Lys Leu  
 945 950 955 960  
 Lys Gln Leu Arg Glu Gln Val Ser Gln Asp Leu Met Ala Leu Gln Gly  
 965 970 975  
 Thr Gln Asn Pro Ala Ser Pro Leu Pro Ser Phe Asp Glu Val Asp Ser  
 980 985 990  
 Gly Asp Gln Pro Pro Ala Thr Ser Val Pro Ala Pro Arg Ala Lys Gln  
 995 1000 1005  
 Phe Arg Ala Val Arg Thr Thr Glu Gly Glu Glu Glu Thr Glu Ser Arg  
 1010 1015 1020  
 Val Pro Gly Ser Thr Arg Pro Gln Arg Ser Phe Leu Ser Arg Val Val  
 1025 1030 1035 1040  
 Arg Ala Ala Leu Pro Leu Gln Leu Leu Leu Leu Leu Leu Leu Leu  
 1045 1050 1055  
 Ala Cys Leu Leu Pro Ser Ser Glu Glu Asp Tyr Ser Cys Thr Gln Ala  
 1060 1065 1070  
 Asn Asn Phe Ala Arg Ser Phe Tyr Pro Met Leu Arg Tyr Thr Asn Gly  
 1075 1080 1085  
 Pro Pro Pro Thr  
 1090

&lt;210&gt; 3791

&lt;211&gt; 1011

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3791

tgatcagggtc acacacacgg tatactgtgt ctggcagctc atcaagacgg tggaagcagc  
 60

ctggcaacat agtatctgtg aaagtgtgga gctcatcttg ttccaacggg tcagcatccc  
 120

tgaaccttct ttaaacattt agcctcttcc tctctctgct tttcccgagc tttccgttcc  
 180

tcttctctct tccggcaagc aacttcctca ggtgactctg ccctttgatc cattggaata  
 240

tcctgtccca gagacatagc aattgctctc atcatctggt cctcttcaga catgctgaga  
 300

tcccgaacaa ctctcccat gattggagga ggggtgggta aaaggtactc tgtggcctgc  
 360  
 tccatgggtgc tgggtgttcaa cagtgcctcc attgcatggt cccttgtgaa gcccattgtcc  
 420  
 atgagctggt gcagttgttg ctggttgact tgaggttccc ggcgggagcc accttctct  
 480  
 tgccctgtat cctcttctcc tcgagacccc tcttctctct tgcttagtct ctctcgaatc  
 540  
 acaggttctc ctccggaggat gtggcataga atggccagca tcgattcagc cattcgtcca  
 600  
 ccatatacct tcagggggtt cgggttccat aagtttttga tgcaagtaaa ggctgctttc  
 660  
 tgagttacca caaggaagcg cagtgcactg aactggggaa agttctggac acctccaggc  
 720  
 aatttggcag gcagcgaatg tggagattca agcaccgtgg tgggattcac catcttctcc  
 780  
 accagcataa gccaggcatc taggaattct cctgtgccat caggcaagtc tgagtgttcc  
 840  
 aatccctcag aaacaggaac ttacctccc atggacagag ccagttgaa agtttcaaaa  
 900  
 agagcattgt ggcctccgga gcagagaaat ttttcagca tgaggtggta gggatacttc  
 960  
 ctctcatcaa acagcattgg ggatgtgaaa ccaactgaac agatgaagaa t  
 1011

&lt;210&gt; 3792

&lt;211&gt; 288

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3792

Met	Leu	Phe	Asp	Glu	Arg	Lys	Tyr	Pro	Tyr	His	Leu	Met	Leu	Gln	Lys
1				5				10						15	
Phe	Leu	Cys	Ser	Gly	Gly	His	Asn	Ala	Leu	Phe	Glu	Thr	Phe	Asn	Trp
			20				25						30		
Ala	Leu	Ser	Met	Gly	Gly	Lys	Val	Pro	Val	Ser	Glu	Gly	Leu	Glu	His
			35			40					45				
Ser	Asp	Leu	Pro	Asp	Gly	Thr	Gly	Glu	Phe	Leu	Asp	Ala	Trp	Leu	Met
		50			55					60					
Leu	Val	Glu	Lys	Met	Val	Asn	Pro	Thr	Thr	Val	Leu	Glu	Ser	Pro	His
					70					75				80	
Ser	Leu	Pro	Ala	Lys	Leu	Pro	Gly	Gly	Val	Gln	Asn	Phe	Pro	Gln	Phe
			85				90						95		
Ser	Ala	Leu	Arg	Phe	Leu	Val	Val	Thr	Gln	Lys	Ala	Ala	Phe	Thr	Cys
			100				105						110		
Ile	Lys	Asn	Leu	Trp	Asn	Arg	Lys	Pro	Leu	Lys	Val	Tyr	Gly	Gly	Arg
		115				120					125				
Met	Ala	Glu	Ser	Met	Leu	Ala	Ile	Leu	Cys	His	Ile	Leu	Arg	Gly	Glu
		130				135					140				
Pro	Val	Ile	Arg	Glu	Arg	Leu	Ser	Lys	Glu	Lys	Glu	Gly	Ser	Arg	Gly
				145		150			155					160	
Glu	Glu	Asp	Thr	Gly	Gln	Glu	Glu	Gly	Gly	Ser	Arg	Arg	Glu	Pro	Gln
				165				170					175		
Val	Asn	Gln	Gln	Gln	Leu	Gln	Gln	Leu	Met	Asp	Met	Gly	Phe	Thr	Arg



&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3795

aactgcctgt acaagaaggg ccctgatggc tatgaccccc agttcataac caagctgctc  
60  
cgcaactaca ggtctcatcc caccatcctg gacattccta accagctcta ttatgaaggg  
120  
gagctgcagg cctgtgctga tgtcgtggat cgagaacgct tctgccgctg ggcgggccta  
180  
cctcgacagg gctttcccat catctttcac ggcgtaatgg gcaaagatga gcgtgaaggc  
240  
aacagcccat ctttcttcaa ccctgaagag gctgccacag tgacttccta cctgaagctg  
300  
ctcctggccc cctcctccaa gaagggcaaa gcccgctga gccctcgaag tgtgggcgtc  
360  
atctccccgt accggaaaca ggtggagaaa atccgttact gcaccacaa acttgacagg  
420  
gagcttcgag gactggatga catcaaggac ttgaaggtgg gttcagtaga agaattccaa  
480  
ggccaagaac gaagcgtcat cctcatctcc accgtgcgaa gcagccagag ctttgtgcag  
540  
ctggatctgg actttaatct gggtttcctt aagaacccca agaggttcaa tgtagctgtg  
600  
accggggcca aggcctgct catcatcgtg gggaaccccc ttctcctggg ccatgaccct  
660  
gactggaaag tattcctgga gttctgtaa gaaaacggag ggtataaccg gtgtcccttc  
720  
cctgccaaac tggacctgca acagggacag aatttactgc aaggctctgag caagctcagc  
780  
ccctctacct cagggcccca cagccatgac tacctcccc aggagcggga gggatgaagg  
840  
ggcctgtctc tgcaagtgga gccagagtgg aggaatgagc tctgaagaca cagcaccag  
900  
ccttctcgca ccagccaagc cttaactgcc tgccctgacc tgaaccagaa ccagctgaa  
960  
ctgcccctcc aaggacagg aaggctgggg gagggagttt acaaccaag ccattccacc  
1020  
ccctcccctg ctggggagaa tgacacatca agctgctaac aattggggga aggggaagga  
1080  
agaaaactct gaaaacaaaa tcttgttcta tgcaaaagcc ttgataatgt ctctctgccc  
1140  
tgccccagc ttcctgagcc cctaagctga ccctgtaggg aagggtggga ctttcagccc  
1200  
tgctgagggt cccatccctt tccagtggga gaggaacca gccccacac tcgggggagg  
1260  
aaaccagtg ggaggtggca ggaagccac ccacaggttt ctaagttag cccctgcta  
1320  
cagaccactc ccttcacgct t  
1341

&lt;210&gt; 3796

&lt;211&gt; 294

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3796

Asn Cys Leu Tyr Lys Lys Gly Pro Asp Gly Tyr Asp Pro Gln Phe Ile  
 1 5 10 15  
 Thr Lys Leu Leu Arg Asn Tyr Arg Ser His Pro Thr Ile Leu Asp Ile  
 20 25 30  
 Pro Asn Gln Leu Tyr Tyr Glu Gly Glu Leu Gln Ala Cys Ala Asp Val  
 35 40 45  
 Val Asp Arg Glu Arg Phe Cys Arg Trp Ala Gly Leu Pro Arg Gln Gly  
 50 55 60  
 Phe Pro Ile Ile Phe His Gly Val Met Gly Lys Asp Glu Arg Glu Gly  
 65 70 75 80  
 Asn Ser Pro Ser Phe Phe Asn Pro Glu Glu Ala Ala Thr Val Thr Ser  
 85 90 95  
 Tyr Leu Lys Leu Leu Leu Ala Pro Ser Ser Lys Lys Gly Lys Ala Arg  
 100 105 110  
 Leu Ser Pro Arg Ser Val Gly Val Ile Ser Pro Tyr Arg Lys Gln Val  
 115 120 125  
 Glu Lys Ile Arg Tyr Cys Ile Thr Lys Leu Asp Arg Glu Leu Arg Gly  
 130 135 140  
 Leu Asp Asp Ile Lys Asp Leu Lys Val Gly Ser Val Glu Glu Phe Gln  
 145 150 155 160  
 Gly Gln Glu Arg Ser Val Ile Leu Ile Ser Thr Val Arg Ser Ser Gln  
 165 170 175  
 Ser Phe Val Gln Leu Asp Leu Asp Phe Asn Leu Gly Phe Leu Lys Asn  
 180 185 190  
 Pro Lys Arg Phe Asn Val Ala Val Thr Arg Ala Lys Ala Leu Leu Ile  
 195 200 205  
 Ile Val Gly Asn Pro Leu Leu Leu Gly His Asp Pro Asp Trp Lys Val  
 210 215 220  
 Phe Leu Glu Phe Cys Lys Glu Asn Gly Gly Tyr Thr Gly Cys Pro Phe  
 225 230 235 240  
 Pro Ala Lys Leu Asp Leu Gln Gln Gly Gln Asn Leu Leu Gln Gly Leu  
 245 250 255  
 Ser Lys Leu Ser Pro Ser Thr Ser Gly Pro His Ser His Asp Tyr Leu  
 260 265 270  
 Pro Gln Glu Arg Glu Gly Glu Gly Gly Leu Ser Leu Gln Val Glu Pro  
 275 280 285  
 Glu Trp Arg Asn Glu Leu  
 290

&lt;210&gt; 3797

&lt;211&gt; 1970

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3797

nnggaaccgc ccgctgccag cccggccagg cacccttgca gcatggcctg gaacaccaac  
 60  
 ctccgctggc ggctgccgct cacctgcctg ctctgcagg tgattatggt gattctcttc  
 120  
 ggggtgttcg tgcgctacga ctctgaggcc gacgccact ggtggtcaga gaggacgcac  
 180



aagaacttga ggcacatgga gaacgaattc tactatcgct acccaagctt ccaggacgtg  
240  
cacgtgatgg tcttcgtggg ctctggcttc ctcatgactt tctgcagcg ctacggcttc  
300  
agcgccgtgg gcttcaactt cctgttgga gccttcggca tccagtgggc gctgctcatg  
360  
cagggctggg tccacttctt acaagaccgc tacatcgctg tgggcgtgga gaacctcatc  
420  
aacgctgact tctgcgtggc ctctgtctgc gtggcctttg gggcagttct gggtaaagtc  
480  
agccccattc agctgctcat catgactttc ttccaagtga cctctctcgc tgtgaatgag  
540  
ttcattctcc ttaacctgct aaagggtgaag gatgcaggag gctccatgac catccacaca  
600  
tttggcgctt actttgggct cacagtgacc cggatcctct accgacgcaa cctagagcag  
660  
agcaaggaga gacagaattc tgtgtaccag tcggacctct ttgccatgat tggcaccctc  
720  
ttcctgtgga tgtactggcc cagcttcaac tcagccatat cctaccatgg ggacagccag  
780  
caccgagccg ccatcaacac ctactgctcc ttggcagcct gcgtgcttac ctcggtggca  
840  
atatccagtg ccctgcacaa gaagggcaag ctggacatgg tgcacatcca gaatgccacg  
900  
ctcgaggag ggggtggcgt ggggtaccgt gctgagatga tgctcatgcc ttacgggtgc  
960  
ctcatcatcg gcttcgtctg cggcatcatc tccaccctgg gttttgtata cctgacccca  
1020  
ttcctggagt cccggctgca catccaggac acatgtggca ttaacaatct gcatggcatt  
1080  
cctggcatca tagggggcat cgtgggtgct gtgacagcgg cctccgccag ccttgaagtc  
1140  
tatggaaaag aagggttgt ccattccttt gactttcaag gtttcaacgg ggactggacc  
1200  
gcaagaacac agggaaagt ccagatttat ggtctcttgg tgaccctggc catggccctg  
1260  
atgggtggca tcattgtggg gctcattttg agattaccat tctggggaca accttcagat  
1320  
gagaactgct ttgaggatgc ggtctactgg gagatgcctg aagggaacag cactgtctac  
1380  
atccctgagg accccacctt caagccctca ggaccctcag taccctcagt acctatggtg  
1440  
tccccactac ccatggcttc ctcggtaccc ttggtaccct aggctcccag ggcagggtgag  
1500  
gagcaggctc cacagactgt cctggggccc agaggagctg gtgctgacct agctagggat  
1560  
gcaagagtga gcaagcagca cccccacctg ctggcttggc ctcaagggtc ctccaccct  
1620  
gccctcccct tcatcccagg gggctctgct gagaatggag aaggagaagc tacaaagtgg  
1680  
gcatccaagc cgggttcttg ctgcagaagt tctgcctctg cctgggggtc tggccacatt  
1740  
ggagaaaaac aggtctaaag tggggctggg acctggtggg tgaacctgag ctctcccagg  
1800

agacaactta gctgccagtc accacctatg aggtcttctt accccgtgcc tgcacctcgg  
 1860  
 ccagcatctc ctatgctccc tgggtccccc agacctctct gtgttggtg cgtggcagcc  
 1920  
 tccaggaata aacattcttg ttgtcctttg taaaaaaaaa aaaaaaaaaa  
 1970

<210> 3798

<211> 473

<212> PRT

<213> Homo sapiens

<400> 3798

Leu	Arg	Trp	Arg	Leu	Pro	Leu	Thr	Cys	Leu	Leu	Gln	Val	Ile	Met
1				5					10				15	
Val	Ile	Leu	Phe	Gly	Val	Phe	Val	Arg	Tyr	Asp	Phe	Glu	Ala	Asp
			20					25				30		
His	Trp	Trp	Ser	Glu	Arg	Thr	His	Lys	Asn	Leu	Ser	Asp	Met	Glu
	35					40						45		Asn
Glu	Phe	Tyr	Tyr	Arg	Tyr	Pro	Ser	Phe	Gln	Asp	Val	His	Val	Met
	50					55				60				Val
Phe	Val	Gly	Phe	Gly	Phe	Leu	Met	Thr	Phe	Leu	Gln	Arg	Tyr	Gly
65					70					75				80
Ser	Ala	Val	Gly	Phe	Asn	Phe	Leu	Leu	Ala	Ala	Phe	Gly	Ile	Gln
				85					90				95	Trp
Ala	Leu	Leu	Met	Gln	Gly	Trp	Phe	His	Phe	Leu	Gln	Asp	Arg	Tyr
			100					105					110	Ile
Val	Val	Gly	Val	Glu	Asn	Leu	Ile	Asn	Ala	Asp	Phe	Cys	Val	Ala
	115						120					125		Ser
Val	Cys	Val	Ala	Phe	Gly	Ala	Val	Leu	Gly	Lys	Val	Ser	Pro	Ile
	130					135					140			Gln
Leu	Leu	Ile	Met	Thr	Phe	Phe	Gln	Val	Thr	Leu	Phe	Ala	Val	Asn
145					150					155				160
Phe	Ile	Leu	Leu	Asn	Leu	Leu	Lys	Val	Lys	Asp	Ala	Gly	Gly	Ser
				165					170					175
Thr	Ile	His	Thr	Phe	Gly	Ala	Tyr	Phe	Gly	Leu	Thr	Val	Thr	Arg
			180					185					190	Ile
Leu	Tyr	Arg	Arg	Asn	Leu	Glu	Gln	Ser	Lys	Glu	Arg	Gln	Asn	Ser
	195						200					205		Val
Tyr	Gln	Ser	Asp	Leu	Phe	Ala	Met	Ile	Gly	Thr	Leu	Phe	Leu	Trp
	210					215					220			Met
Tyr	Trp	Pro	Ser	Phe	Asn	Ser	Ala	Ile	Ser	Tyr	His	Gly	Asp	Ser
225					230					235				240
His	Arg	Ala	Ala	Ile	Asn	Thr	Tyr	Cys	Ser	Leu	Ala	Ala	Cys	Val
				245					250					255
Thr	Ser	Val	Ala	Ile	Ser	Ser	Ala	Leu	His	Lys	Lys	Gly	Lys	Leu
			260					265					270	Asp
Met	Val	His	Ile	Gln	Asn	Ala	Thr	Leu	Ala	Gly	Gly	Val	Ala	Val
	275						280					285		Gly
Thr	Ala	Ala	Glu	Met	Met	Leu	Met	Pro	Tyr	Gly	Ala	Leu	Ile	Ile
	290					295					300			Gly
Phe	Val	Cys	Gly	Ile	Ile	Ser	Thr	Leu	Gly	Phe	Val	Tyr	Leu	Thr
305					310					315				320
Phe	Leu	Glu	Ser	Arg	Leu	His	Ile	Gln	Asp	Thr	Cys	Gly	Ile	Asn

```

          325          330          335
Leu His Gly Ile Pro Gly Ile Ile Gly Gly Ile Val Gly Ala Val Thr
          340          345          350
Ala Ala Ser Ala Ser Leu Glu Val Tyr Gly Lys Glu Gly Leu Val His
          355          360          365
Ser Phe Asp Phe Gln Gly Phe Asn Gly Asp Trp Thr Ala Arg Thr Gln
          370          375          380
Gly Lys Phe Gln Ile Tyr Gly Leu Leu Val Thr Leu Ala Met Ala Leu
385          390          395          400
Met Gly Gly Ile Ile Val Gly Leu Ile Leu Arg Leu Pro Phe Trp Gly
          405          410          415
Gln Pro Ser Asp Glu Asn Cys Phe Glu Asp Ala Val Tyr Trp Glu Met
          420          425          430
Pro Glu Gly Asn Ser Thr Val Tyr Ile Pro Glu Asp Pro Thr Phe Lys
          435          440          445
Pro Ser Gly Pro Ser Val Pro Ser Val Pro Met Val Ser Pro Leu Pro
          450          455          460
Met Ala Ser Ser Val Pro Leu Val Pro
465          470

```

&lt;210&gt; 3799

&lt;211&gt; 210

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3799

```

tcgaggaact gctcggcctc cacatcccaa gcctcacctt ctccctgcat cacagagaga
60
agcaagcaga aggcccggag gagaacaaga tccagctcct cctcctcttc ttccagttct
120
tctagctcct cttcttcttc ctctgctctcc tctctttcct ccagtgatgg ccggaagaag
180
cggggggaagt acaaggacaa gaggaggaag
210

```

&lt;210&gt; 3800

&lt;211&gt; 70

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3800

```

Ser Arg Asn Cys Ser Ala Ser Thr Ser Gln Ala Ser Pro Ser Pro Cys
1          5          10          15
Ile Thr Glu Arg Ser Lys Gln Lys Ala Arg Arg Arg Thr Arg Ser Ser
          20          25          30
Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser Ser
          35          40          45
Ser Ser Ser Ser Ser Ser Ser Asp Gly Arg Lys Lys Arg Gly Lys Tyr
          50          55          60
Lys Asp Lys Arg Arg Lys
65          70

```

&lt;210&gt; 3801

&lt;211&gt; 4070

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3801

ngctagccccg gcggcaagca ctgacgtgtc tctcggcgga gctgctgtgc agtggaaacgc  
60  
gctggggccgc gggcagcgtc gcctcacgcg gagcagagct gagctgaagc gggacccgga  
120  
gcccagagcag ccgcccgcct ggcaatcaaa tttctggaag tcatcaagcc cttctgtgtc  
180  
atcctgcccgg aaattcagaa gccagagagg aagattcagt ttaaggagaa agtgctgtgg  
240  
accgctatca ccctctttat cttcttagtg tgctgccaga ttcccctgtt tgggatcatg  
300  
tcttcagatt cagctgacct tttctattgg atgagagtga ttctagcctc taacagaggc  
360  
acattgatgg agctagggat ctctcctatt gtcacgtctg gccttataat gcaactcttg  
420  
gctggcgcca agataattga agttggtgac accccaaaag accgagctct cttcaacgga  
480  
gccccaaaagt tatttggcat gatcattact atcggccagt ctatcgtgta tgtgatgacc  
540  
gggatgtatg gggacccttc tgaaatgggt gctggaattt gcctgctaata catcattcag  
600  
ctctttgttg ctggtttgat tgtcctactt ttggatgagc tgctacagaa gggttacggc  
660  
ttgggggtctg ggatttccct ctttattgcc accaacatct gtgagaccat tgtctggaag  
720  
gccttttagtc ccactaccat taacactggc agagggtactg agtttgaggg tgcagtcata  
780  
gctctgttcc atttggtggc caccaggacg gacaaaagtc gagctttacg ggaggctttt  
840  
tatcggcaga acttacccaa cctcatgaat ctcatcgcca ccatctttgt ctttgacgtg  
900  
gtcatctatt tccagggctt ccgagtggac ctgccaatca agtcggcccc ctaccgtggc  
960  
cagtacaaca cctatcccat caagctcttc tatacgtcca acatccccat catcctgcag  
1020  
tcggccctgg tgtccaacct ttatgttatt tcccaaagtc tctcagctcg atttagtggc  
1080  
aacttttttag taaatttact aggacagtgg tcggacacgt cttctggggg cccagcacgt  
1140  
gcttatccag ttggtggcct ttgctattac ctgtcccctc cagaatcttt tggctccgtg  
1200  
ttagaagacc cggtcacatg agttgtatac atagtgttca tgctgggctc ctgtgcattc  
1260  
ttctccaaaa cgtggattga ggtctcaggt tcctctgcca aagatgttgc aaagcagctg  
1320  
aaggagcagc agatggtgat gagaggccac cgagagacct ccatgggtcca tgaactcaac  
1380  
cggtagatcc ccacagccgc ggcctttggg gggctgtgca tcggggccct ctcggtcctg  
1440  
gctgaacttc taggcgcat tgggtctgga accgggatcc tgctcgcagt cacaatcacc  
1500

taccagtact ttgagatctt cgttaaggag caaagcgagg ttggcagcat gggggccctg  
1560  
ctcttctgag cccgtctccc ggacagggtg aggaagctgc tccagaagcg cctcggaagg  
1620  
ggagctctca tcatggcgcg tgctgctgcg gcatatggac ttttaataat gtttttgaat  
1680  
ttcgtattct ttcatccac tgtgtaaagt gctagacatt ttccaattta aaattttgct  
1740  
ttttatcctg gcactggcaa aaagaactgt gaaagtgaaa ttttattcag ccgactgcca  
1800  
gagaagtggg aatggtatag gattgtcccc aagtgtccat gtaacttttg ttttaacctt  
1860  
tgcaccttct cagtgtgta tgcggctgca gccgtctcac ctgtttcccc acaaaggga  
1920  
tttctcactc tggttggaag cacaaacact gaaatgtcta cgtttcattt tggcagtagg  
1980  
gtgtgaagct gggagcagat catgtatttc ccggagacat gggaccttgc tggcatgtct  
2040  
ccttcacaat caggcgtggg aatatctggc ttaggactgt ttctctctaa gacaccattg  
2100  
ttttccctta ttttaaaagt gattttttta aggacagaac ttcttccaaa agagagggat  
2160  
ggctttccca gaagacactc ctggccatct gtggatttgt ctgtgcacct attggctctt  
2220  
ctagtgcact cttctggttg ggcttagagt ctgcctgttt ctgctagctc cgtgtttagt  
2280  
ccactgggt catcagctct gccaaactga gcctggccaa gctaggtgga cagacccttg  
2340  
cagtgatgtc cgtttgtcca gattctgcca gtcactactg gacacgtctc ctgcagctg  
2400  
ccctagcaag gggagacatt gtggtagcta tcagacatgg acagaaactg acttagtgct  
2460  
cacaagcccc tacaccttct gggctgaaga tcaccagct gtgttcagaa ttttcttact  
2520  
gtgcttagga ctgcacgcaa gtgagcagac accaccgact tcctttctgc gtcaccagt  
2580  
tcgtcagcag agagaggaca gcacaggctc aagggttgga gtgaagtcag gttcggggtg  
2640  
catgggtgt ggtggtgttg atcagttgct ccagtgtttg aaataagaag actcatgttt  
2700  
atgtctggaa taagttctgt ttgtgctgac aggtggccta ggtcctggag atgagcacc  
2760  
tctctctggc ctttagggag tcccccttta ggacaggcac tgcccagcag caagggcagc  
2820  
agagttgggt gctaagatcc tgaggagctc gaggtttcga gctggcttta gacattgggt  
2880  
ggaccaagga tgttttgca gatgccctga tcctaagaag ggggcctggg ggtgctgca  
2940  
gcctgtcggg gagacccac tctgacagtg ggcacacggc agcctgcaaa gcacagggcc  
3000  
accgccacag cccggcagag gggcacactc tggagacctt gctggcagt gtagccagga  
3060  
aacagagtga ccaagggaca agaagggact tgcctaaagc caccagcaa ctgagcagca  
3120

gaaccaagat gggccccagg ctctccata tggcccaggg cttaccaccc tatcacacgt  
 3180  
 ggccttgtct agaccagtc ctgagcaggg gagaggctct tgagacctga tgccctccta  
 3240  
 ccccatggt tctccactg ccctgtctgc tctgtgcta cagaggggca gggcctcccc  
 3300  
 cagcccacgc ttaggaatgc ttggcctctg gcaggcaggc agctgtaccc aagctgggtg  
 3360  
 gcagggggct ggaaggcacc aggcctcagg aggagcccca tagtcccgcc tgcagcctgt  
 3420  
 aaccatcggc tgggcctgc aaggcccaca ctcacgcctt gtgggtgatg gtcacgggtg  
 3480  
 gtgggtgggg gctgacccca gcttcaggg gactgtcact gtggacgcca aaatggcata  
 3540  
 actgagataa ggtgaataag tgacaaataa agccagtttt ttacaaggta cttgatcatg  
 3600  
 ttctcttaat cttaaattag attttattcc caaaaaggcc agtgaggcgc aaagcttggt  
 3660  
 tgcagcttta tgtgtgtcaa aggccttggtt ggcgcactca ggcattttgc ctggaaaagt  
 3720  
 tcccttctga tggcatgct aacctgggtgc tcacatttgt gataaagtga tatgggtgct  
 3780  
 gggccacatg tggagctgct gcagggctct gcccgtagg cagagtgcac tggctgtccc  
 3840  
 gtgagaatgc agaggcctcc gctgagccag ggcgcctgcc accccgtgga agagtgggaa  
 3900  
 ccttctagca ggagcctagg gcccataac tcgaagccct ttgagcctca gctccagta  
 3960  
 ccagctggtg attggagaag tcttaacttg gttgtgaggc tggcctcaga cccgacctgt  
 4020  
 agccaagcca gaaggaccca gtgttgtgtg ggtgggagtg gcaggcttgt  
 4070

&lt;210&gt; 3802

&lt;211&gt; 476

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3802

Met	Ala	Ile	Lys	Phe	Leu	Glu	Val	Ile	Lys	Pro	Phe	Cys	Val	Ile	Leu
1				5					10					15	
Pro	Glu	Ile	Gln	Lys	Pro	Glu	Arg	Lys	Ile	Gln	Phe	Lys	Glu	Lys	Val
			20					25					30		
Leu	Trp	Thr	Ala	Ile	Thr	Leu	Phe	Ile	Phe	Leu	Val	Cys	Cys	Gln	Ile
		35				40						45			
Pro	Leu	Phe	Gly	Ile	Met	Ser	Ser	Asp	Ser	Ala	Asp	Pro	Phe	Tyr	Trp
		50				55				60					
Met	Arg	Val	Ile	Leu	Ala	Ser	Asn	Arg	Gly	Thr	Leu	Met	Glu	Leu	Gly
		65			70				75				80		
Ile	Ser	Pro	Ile	Val	Thr	Ser	Gly	Leu	Ile	Met	Gln	Leu	Leu	Ala	Gly
			85					90					95		
Ala	Lys	Ile	Ile	Glu	Val	Gly	Asp	Thr	Pro	Lys	Asp	Arg	Ala	Leu	Phe
			100					105					110		
Asn	Gly	Ala	Gln	Lys	Leu	Phe	Gly	Met	Ile	Ile	Thr	Ile	Gly	Gln	Ser

```

      115              120              125
Ile Val Tyr Val Met Thr Gly Met Tyr Gly Asp Pro Ser Glu Met Gly
      130              135              140
Ala Gly Ile Cys Leu Leu Ile Ile Ile Gln Leu Phe Val Ala Gly Leu
145              150              155              160
Ile Val Leu Leu Leu Asp Glu Leu Leu Gln Lys Gly Tyr Gly Leu Gly
      165              170              175
Ser Gly Ile Ser Leu Phe Ile Ala Thr Asn Ile Cys Glu Thr Ile Val
      180              185              190
Trp Lys Ala Phe Ser Pro Thr Thr Ile Asn Thr Gly Arg Gly Thr Glu
      195              200              205
Phe Glu Gly Ala Val Ile Ala Leu Phe His Leu Leu Ala Thr Arg Thr
      210              215              220
Asp Lys Val Arg Ala Leu Arg Glu Ala Phe Tyr Arg Gln Asn Leu Pro
225              230              235              240
Asn Leu Met Asn Leu Ile Ala Thr Ile Phe Val Phe Ala Val Val Ile
      245              250              255
Tyr Phe Gln Gly Phe Arg Val Asp Leu Pro Ile Lys Ser Ala Arg Tyr
      260              265              270
Arg Gly Gln Tyr Asn Thr Tyr Pro Ile Lys Leu Phe Tyr Thr Ser Asn
      275              280              285
Ile Pro Ile Ile Leu Gln Ser Ala Leu Val Ser Asn Leu Tyr Val Ile
      290              295              300
Ser Gln Met Leu Ser Ala Arg Phe Ser Gly Asn Phe Leu Val Asn Leu
305              310              315              320
Leu Gly Gln Trp Ser Asp Thr Ser Ser Gly Gly Pro Ala Arg Ala Tyr
      325              330              335
Pro Val Gly Gly Leu Cys Tyr Tyr Leu Ser Pro Pro Glu Ser Phe Gly
      340              345              350
Ser Val Leu Glu Asp Pro Val His Ala Val Val Tyr Ile Val Phe Met
      355              360              365
Leu Gly Ser Cys Ala Phe Phe Ser Lys Thr Trp Ile Glu Val Ser Gly
      370              375              380
Ser Ser Ala Lys Asp Val Ala Lys Gln Leu Lys Glu Gln Gln Met Val
385              390              395              400
Met Arg Gly His Arg Glu Thr Ser Met Val His Glu Leu Asn Arg Tyr
      405              410              415
Ile Pro Thr Ala Ala Ala Phe Gly Gly Leu Cys Ile Gly Ala Leu Ser
      420              425              430
Val Leu Ala Asp Phe Leu Gly Ala Ile Gly Ser Gly Thr Gly Ile Leu
      435              440              445
Leu Ala Val Thr Ile Ile Tyr Gln Tyr Phe Glu Ile Phe Val Lys Glu
      450              455              460
Gln Ser Glu Val Gly Ser Met Gly Ala Leu Leu Phe
465              470              475

```

&lt;210&gt; 3803

&lt;211&gt; 345

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3803

```

ccaagaggaa actccttgaa gaggctacag gaagaaacag gtgctaaaat gtctatcctg
60

```

ggcaaaggat caatgagaga taaagctaag gaagaagaac taaggaagag tggggaagcc  
 120  
 aaatatgccc acttgagtga tgagcttcat gtattaattg aagtgtttgc tccacctggg  
 180  
 gaagcttatt cacgtatgag tcatgcattg gaagagatta aaaaattcct ggttcctgac  
 240  
 tacaatgatg aaattcgtca ggaacaacta cgtgaattat cttacttaaa tggctcagag  
 300  
 gactctgggc gtggcagagg tattagaggg agagggatcc ggatt  
 345

<210> 3804

<211> 115

<212> PRT

<213> Homo sapiens

<400> 3804

Pro	Arg	Gly	Asn	Ser	Leu	Lys	Arg	Leu	Gln	Glu	Glu	Thr	Gly	Ala	Lys
1				5				10						15	
Met	Ser	Ile	Leu	Gly	Lys	Gly	Ser	Met	Arg	Asp	Lys	Ala	Lys	Glu	Glu
			20				25					30			
Glu	Leu	Arg	Lys	Ser	Gly	Glu	Ala	Lys	Tyr	Ala	His	Leu	Ser	Asp	Glu
		35				40					45				
Leu	His	Val	Leu	Ile	Glu	Val	Phe	Ala	Pro	Pro	Gly	Glu	Ala	Tyr	Ser
	50				55					60					
Arg	Met	Ser	His	Ala	Leu	Glu	Glu	Ile	Lys	Lys	Phe	Leu	Val	Pro	Asp
65				70				75						80	
Tyr	Asn	Asp	Glu	Ile	Arg	Gln	Glu	Gln	Leu	Arg	Glu	Leu	Ser	Tyr	Leu
			85				90						95		
Asn	Gly	Ser	Glu	Asp	Ser	Gly	Arg	Gly	Arg	Gly	Ile	Arg	Gly	Arg	Gly
			100				105						110		
Ile	Arg	Ile													
			115												

<210> 3805

<211> 1923

<212> DNA

<213> Homo sapiens

<400> 3805

ataaaatattt taaaagggtgg ggggctggaa ctggcagagt ataagtggca ctgtgtgttg  
 60  
 ctcagctgaa ctccatgccc tgtgaacaat ataagcaaca gtccctgctat ttccactgac  
 120  
 aagagcccgt tgccaccag atgccaggcc ctgtgcttcc tccctgccttt gaggttttgg  
 180  
 cttgtgatca accaggaggg aaacatgggt actgctcgcc aggaacctcg cctggctcctg  
 240  
 atttccctga cctgcgatgg tgacaccctg actctcagtg cagcctacac aaaggaccta  
 300  
 ctactgccta tcaaaacgcc caccacaaat gcagtcaca agtgcagagt gcacggcctg  
 360  
 gagatagagg gcagggactg tggcgaggcc gccgcccagt ggataaccag cttcctgaag  
 420



tcacagccct accgcctggt gcacttcgag cctcacatgc gaccgagacg tcctcatcaa  
480  
atagcagact tgttccgacc caaggaccag attgcttact cagacaccag cccattcttg  
540  
atcctttctg aggcgtcgct ggcggatctc aactccaggc tagagaagaa agttaagca  
600  
accaacttca ggccaatat tgtaatttca ggatgcatg tctatgcaga ggattcttgg  
660  
gatgagcttc ttattggtga cgtggaactg aaaagggtga tggcttggtc cagatgcatt  
720  
ttaaccacag tggaccaga caccggtgtc atgagcagga aggaaccgct ggaaacactg  
780  
aagagttatc gccagtgtga cccttcagaa cgaaagtat atggaaaatc accactcttt  
840  
gggcagtatt ttgtgctgga aaaccaggg accatcaaag tgggagacc cgtgtacctg  
900  
ctgggccagt aatgggaacc gtatgtcctg gaattattaga tgccttttaa aaatgttctc  
960  
aaaaatgaca acacttgaag catggtgttt cagaactgag acctctacat tttctttaa  
1020  
tttgtgattt tcacattttt cgtcttttgg acttctggtg tctcaatgct tcaatgtccc  
1080  
agtgcacaaa gtaaagaaat atagtctcaa taacttagta ggacttcagt aagtcactta  
1140  
aatgacaaga caggattctg aaaactcccc gtttaactga ttatggaata gttctttctc  
1200  
ctgcttctcc gtttatctac caagagcgca gacttgcac ctgtcactac cactcgttag  
1260  
agaaagagaa gaagagaaag aggaagagtg ggtgggctgg aagaatgtcc tagaatgtgt  
1320  
tattgcccct gttcatgagg tacgcaatga aaattaaatt gcaccccaaa tatggctgga  
1380  
atgccacttc ccttttcttc tcaagccccg ggctagcttt tgaaatggca taaagactga  
1440  
ggtgaccttc aggaagcact gcagatatta atttccata gatctggatc tggccctgct  
1500  
gcttctcaga cagcattgga tttcctaaag gtgctcagga ggatggttgt gtagtcatgg  
1560  
aggacccctg gatccttgcc attccctca gctaatacgc gagtgctcct tctccagttc  
1620  
cgggtgaaaa agttctgaat tctgtggagg agaagaaaag tgattcagtg atttcagata  
1680  
gactactgaa aacctttaa gggggaaaag gaaagcatat gtcagttgtt taaaacccaa  
1740  
tatctatttt ttaactgatt gtataactct aagatctgat gaagtatatt ttttattgcc  
1800  
attttgtcct ttgattatat tgggaagttg actaaacttg aaaaatgttt ttaaaactgt  
1860  
gaataaatgg aagctacttt gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
1920  
aaa  
1923

&lt;210&gt; 3806

<211> 280  
 <212> PRT  
 <213> Homo sapiens

<400> 3806  
 Thr Pro Cys Pro Val Asn Asn Ile Ser Asn Ser Pro Ala Ile Ser Thr  
 1 5 10 15  
 Asp Lys Ser Pro Leu Pro Thr Arg Cys Gln Ala Leu Cys Phe Leu Leu  
 20 25 30  
 Pro Leu Arg Phe Trp Leu Val Ile Asn Gln Glu Gly Asn Met Val Thr  
 35 40 45  
 Ala Arg Gln Glu Pro Arg Leu Val Leu Ile Ser Leu Thr Cys Asp Gly  
 50 55 60  
 Asp Thr Leu Thr Leu Ser Ala Ala Tyr Thr Lys Asp Leu Leu Leu Pro  
 65 70 75 80  
 Ile Lys Thr Pro Thr Thr Asn Ala Val His Lys Cys Arg Val His Gly  
 85 90 95  
 Leu Glu Ile Glu Gly Arg Asp Cys Gly Glu Ala Ala Ala Gln Trp Ile  
 100 105 110  
 Thr Ser Phe Leu Lys Ser Gln Pro Tyr Arg Leu Val His Phe Glu Pro  
 115 120 125  
 His Met Arg Pro Arg Arg Pro His Gln Ile Ala Asp Leu Phe Arg Pro  
 130 135 140  
 Lys Asp Gln Ile Ala Tyr Ser Asp Thr Ser Pro Phe Leu Ile Leu Ser  
 145 150 155 160  
 Glu Ala Ser Leu Ala Asp Leu Asn Ser Arg Leu Glu Lys Lys Val Lys  
 165 170 175  
 Ala Thr Asn Phe Arg Pro Asn Ile Val Ile Ser Gly Cys Asp Val Tyr  
 180 185 190  
 Ala Glu Asp Ser Trp Asp Glu Leu Leu Ile Gly Asp Val Glu Leu Lys  
 195 200 205  
 Arg Val Met Ala Cys Ser Arg Cys Ile Leu Thr Thr Val Asp Pro Asp  
 210 215 220  
 Thr Gly Val Met Ser Arg Lys Glu Pro Leu Glu Thr Leu Lys Ser Tyr  
 225 230 235 240  
 Arg Gln Cys Asp Pro Ser Glu Arg Lys Leu Tyr Gly Lys Ser Pro Leu  
 245 250 255  
 Phe Gly Gln Tyr Phe Val Leu Glu Asn Pro Gly Thr Ile Lys Val Gly  
 260 265 270  
 Asp Pro Val Tyr Leu Leu Gly Gln  
 275 280

<210> 3807  
 <211> 372  
 <212> DNA  
 <213> Homo sapiens

<400> 3807  
 nacgcgtggc ggctgagcga ggtgaacgag gacttcagct tgtgccccag atacccccgt  
 60  
 gcggtgatcg tgccatactt ggtggacgat gatgccctgg cgcgcagcgc ccgcttccgt  
 120  
 cagggagggtc gcttccccgt gctcagctac caccggctc ccagcggcag agggagcgcg  
 180

ccctcccccac gctccgcccc tgggtggctg cgctctttct gggccttttc tttttggccc  
 240  
 ggtcaattcg cggcgtagcc gctgccccaa ctctgcccc attctggtec cggccctctc  
 300  
 ccgccttttc gctgggaagg gtatcacctt tctctggccc cggccctgac ggttcggggc  
 360  
 cccgcgaagc tt  
 372

<210> 3808

<211> 85

<212> PRT

<213> Homo sapiens

<400> 3808

Xaa	Ala	Trp	Arg	Leu	Ser	Glu	Val	Asn	Glu	Asp	Phe	Ser	Leu	Cys	Pro
1				5				10					15		
Arg	Tyr	Pro	Arg	Ala	Val	Ile	Val	Pro	Tyr	Leu	Val	Asp	Asp	Asp	Ala
			20					25				30			
Leu	Ala	Arg	Ser	Ala	Arg	Phe	Arg	Gln	Gly	Gly	Arg	Phe	Pro	Val	Leu
		35					40					45			
Ser	Tyr	His	Pro	Ala	Pro	Ser	Gly	Arg	Gly	Ser	Ala	Pro	Ser	Pro	Arg
	50					55				60					
Ser	Ala	Pro	Gly	Trp	Leu	Arg	Pro	Phe	Trp	Ala	Phe	Ser	Phe	Trp	Pro
65					70					75					80
Gly	Gln	Phe	Ala	Ala											
					85										

<210> 3809

<211> 1221

<212> DNA

<213> Homo sapiens

<400> 3809

aaaacttttt tttttttttt tgttggtaca gattgtatat ttgcatgcct ggggggtacc  
 60  
 aggctgtacg catataaaca gggaggaggg aggctctgag aacctgccag ggtgcctggg  
 120  
 ataagctgtg actttttgcc cctgatgcca taagttggag ggtcctctgc tcaaaacata  
 180  
 tgggtacacac ttctccttct ttctcatctgg tatcatgtat catctctcag atccaataag  
 240  
 aaaacattcc cagtccttc cctccctccc tagtaccaag gtcctcatct cagttttcat  
 300  
 ggggtccatgg agggctgcct ctagtgatga gctggaatct taaggcctga aatagagcca  
 360  
 gactgcagca gtcccaagtc ctggagagct tcaagtaact gctcccgccg agagccaata  
 420  
 aaggaattct ccaggaaggt aggcaggcct cctacaccat cccgcagggt atacaggggc  
 480  
 actgcacca ggcccagcac ctccagcccg tggtccttgg cgcgtgttgc gccggcctcc  
 540  
 acagccaaca gtcctcagag ctccagacgt tggcatagaa gtgccacaac gcgtggccct  
 600

gaccgcacgt gggagctgcg gtagtcagtg cgtccacgc ggaaagcggc agccgcttcg  
 660  
 cccagctcct cgcgcagctc gcgggttcagc ccgtcctcta ggcttctgtc ctgcgtgtcc  
 720  
 acgaatccgc cggggaagcc caggcgtcca tcgaagcgca tctgcatcag tatggcgtag  
 780  
 cgcagcggga tgcggccgaa gagcatccca ggggccggcg cgtagaggag agcgtaggta  
 840  
 ctctgttttg ctaattctgt cttactctt cagctcagca agactactgg gctctctttg  
 900  
 gggttccctt ctctgtgcta tgctccaga caataagcta gggcacttca tttgtttcgt  
 960  
 ttctctcatg gttcactatc cagtgtgcc tgtgtccaa tgctgaaaa ccactgtttg  
 1020  
 gtacattttg tctggttttc tagttaaggc aggaggataa atctgttgcc tgtttttcca  
 1080  
 tcatggccag aagcaaaatc tgtatcatgt tctagtaatt ttcacaacta tcaaagttag  
 1140  
 tcttactaat cttttctcaa tacctaaagt tcaaaatctc tttgtcaat ctgttatcaa  
 1200  
 gtactgttat ttttccttaa g  
 1221

&lt;210&gt; 3810

&lt;211&gt; 97

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3810

Ala	Gly	Ile	Leu	Arg	Pro	Glu	Ile	Glu	Pro	Asp	Cys	Ser	Ser	Pro	Lys
1			5					10						15	
Ser	Trp	Arg	Ala	Ser	Ser	Asn	Cys	Ser	Arg	Ala	Glu	Pro	Ile	Lys	Glu
		20						25				30			
Phe	Ser	Arg	Lys	Val	Gly	Arg	Pro	Pro	Thr	Pro	Ser	Arg	Arg	Val	Tyr
		35				40					45				
Arg	Gly	Thr	Arg	Thr	Arg	Pro	Ser	Thr	Ser	Ser	Pro	Trp	Ser	Leu	Ala
	50				55					60					
Arg	Val	Ala	Pro	Ala	Ser	Thr	Ala	Asn	Ser	Ser	Ser	Ser	Ser	Asp	Ala
65				70				75						80	
Trp	His	Arg	Ser	Ala	Thr	Thr	Arg	Gly	Pro	Asp	Pro	Thr	Trp	Glu	Leu
			85					90						95	

Arg

&lt;210&gt; 3811

&lt;211&gt; 296

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3811

ggtaccctgg agatgggagc cagggtcgg tcaactgattg tgccccccac tgcccagggt  
 60  
 cctgtcctta aggtcagaa ctgtagacc tcaggcagac ccgttctccc ctaccagagg  
 120

acaccacgcc agatatctgg gcagcagggg catctgacct ggggtgcttg ctggcagcac  
 180  
 tgccctggaca gcagggcctc cttagggcca cctcccaacc cagctaggga gcgtcttaag  
 240  
 gcctgccctc cctgctgggc ttgggtggga cgctcagggg caggccccctc acgcgt  
 296

<210> 3812

<211> 94

<212> PRT

<213> Homo sapiens

<400> 3812

Met	Gly	Ala	Arg	Ala	Arg	Ser	Leu	Ile	Val	Pro	Pro	Thr	Ala	Gln	Val
1				5						10				15	
Pro	Val	Leu	Lys	Ala	Gln	Asn	Cys	Arg	Pro	Ser	Gly	Arg	Pro	Val	Leu
			20					25					30		
Pro	Tyr	Gln	Arg	Thr	Pro	Arg	Gln	Ile	Ser	Gly	Gln	Gln	Gly	His	Leu
			35				40					45			
Thr	Trp	Gly	Ala	Cys	Trp	Gln	His	Cys	Leu	Asp	Ser	Arg	Ala	Ser	Leu
	50					55					60				
Gly	Pro	Pro	Pro	Asn	Pro	Ala	Arg	Glu	Arg	Leu	Lys	Ala	Cys	Pro	Pro
65					70					75				80	
Cys	Trp	Ala	Trp	Val	Gly	Arg	Ser	Gly	Thr	Gly	Pro	Ser	Arg		
				85					90						

<210> 3813

<211> 1419

<212> DNA

<213> Homo sapiens

<400> 3813

agatctaagt ggtgggcccc ctctgagatg gtgactgtga gccccgagca aaacgaccgc  
 60  
 acccccttgg tgatggtgca tggttttggg ggcggcgtgg gtctctggat cctcaacatg  
 120  
 gactcactga gtgcccgcgc cacactgcac accttcgata tgcttggett cgggcgaagc  
 180  
 tcaaggccag cattcccaag ggaccggag ggggctgagg atgagtttgt gacatcgata  
 240  
 gagacatggc gggagaccat ggggatcccc agcatgatcc tcctggggca cagtttggga  
 300  
 ggattcctgg ccacttctta ctcaatcaag taccctgata gagttaaaca cctcatcctg  
 360  
 gtggacccat ggggctttcc cctccgacca actaacccca gtgagatccg tgcaccccca  
 420  
 gcctgggtca aagccgtggc atctgtccta ggacgttcca atccattggc tgttcttcga  
 480  
 gtagctgggc cctggggggc tggctctggtg cagcgattcc ggccggactt caaacgcaag  
 540  
 tttgcagact tctttgaaga tgataccata tcagagtata tttaccactg caacgcacag  
 600  
 aatcccagtg gtgagacagc attcaaagcc atgatggagt cctttggctg ggccccggcg  
 660

cctatgctgg agcgaattca cttgattcga aaagatgtgc ctatcactat gatctacggg  
 720  
 tccgacacct ggatagatac cagtacggga aaaaagggtga agatgcagcg gccggattcc  
 780  
 tatgtccgag acatggagat taagggtgcc tcccaccatg tctatgctga ccagccacac  
 840  
 atcttcaatg ctgtggtgga ggagatctgc gactcagttg attgagctgc tctctgaaga  
 900  
 ggaagaggag aaagccagag agtcactctt acctccctgt ctgcttactc acccactctg  
 960  
 tcctttcttc accaactaac atgtgccagc caggcagagt cttgtactgt tcccagaaca  
 1020  
 ggacgacagt gaaaagaaca ctcttgaccc tacactgaag gctgaaggca gaagccacaa  
 1080  
 gaggccttga gtgccacccc caggaagaa cataaagggt tgcacaatgc caccatcca  
 1140  
 ctcttgcca agtgttacct agatggtgga ggatgtgaag ggattgcacc aagccacatt  
 1200  
 cactctctct gtggcctttc ttcctctggg caaagaaggg cttccagtgg cctttctca  
 1260  
 ctctgtagtg tttgtgggga taggttccat gcaagaacac ctctctctc catccccac  
 1320  
 ttcaccccat cccataccag ttccatccag ggtctgctta actgccaaga gcaggctctg  
 1380  
 gagttccctt cacctgcaga gtccttttca tgacctagg  
 1419

&lt;210&gt; 3814

&lt;211&gt; 294

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3814

Arg	Ser	Lys	Trp	Trp	Ala	Pro	Ser	Glu	Met	Val	Thr	Val	Ser	Pro	Glu
1				5					10					15	
Gln	Asn	Asp	Arg	Thr	Pro	Leu	Val	Met	Val	His	Gly	Phe	Gly	Gly	Gly
			20					25					30		
Val	Gly	Leu	Trp	Ile	Leu	Asn	Met	Asp	Ser	Leu	Ser	Ala	Arg	Arg	Thr
		35				40						45			
Leu	His	Thr	Phe	Asp	Leu	Leu	Gly	Phe	Gly	Arg	Ser	Ser	Arg	Pro	Ala
	50				55					60					
Phe	Pro	Arg	Asp	Pro	Glu	Gly	Ala	Glu	Asp	Glu	Phe	Val	Thr	Ser	Ile
65				70					75					80	
Glu	Thr	Trp	Arg	Glu	Thr	Met	Gly	Ile	Pro	Ser	Met	Ile	Leu	Leu	Gly
			85					90					95		
His	Ser	Leu	Gly	Gly	Phe	Leu	Ala	Thr	Ser	Tyr	Ser	Ile	Lys	Tyr	Pro
		100						105				110			
Asp	Arg	Val	Lys	His	Leu	Ile	Leu	Val	Asp	Pro	Trp	Gly	Phe	Pro	Leu
		115				120						125			
Arg	Pro	Thr	Asn	Pro	Ser	Glu	Ile	Arg	Ala	Pro	Pro	Ala	Trp	Val	Lys
	130					135					140				
Ala	Val	Ala	Ser	Val	Leu	Gly	Arg	Ser	Asn	Pro	Leu	Ala	Val	Leu	Arg
145				150					155					160	
Val	Ala	Gly	Pro	Trp	Gly	Pro	Gly	Leu	Val	Gln	Arg	Phe	Arg	Pro	Asp

165 170 175  
 Phe Lys Arg Lys Phe Ala Asp Phe Phe Glu Asp Asp Thr Ile Ser Glu  
 180 185 190  
 Tyr Ile Tyr His Cys Asn Ala Gln Asn Pro Ser Gly Glu Thr Ala Phe  
 195 200 205  
 Lys Ala Met Met Glu Ser Phe Gly Trp Ala Arg Arg Pro Met Leu Glu  
 210 215 220  
 Arg Ile His Leu Ile Arg Lys Asp Val Pro Ile Thr Met Ile Tyr Gly  
 225 230 235 240  
 Ser Asp Thr Trp Ile Asp Thr Ser Thr Gly Lys Lys Val Lys Met Gln  
 245 250 255  
 Arg Pro Asp Ser Tyr Val Arg Asp Met Glu Ile Lys Gly Ala Ser His  
 260 265 270  
 His Val Tyr Ala Asp Gln Pro His Ile Phe Asn Ala Val Val Glu Glu  
 275 280 285  
 Ile Cys Asp Ser Val Asp  
 290

&lt;210&gt; 3815

&lt;211&gt; 3669

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3815

nggggagcagc tgcagccccg cccgcgcctc ccgggtccct tacgtctggc agctgccag  
 60  
 ctcgggcccg tctgaccggt ttgggccgcc acgcctggcg ctgtgctggg aggagccgcc  
 120  
 gccagtcgcy cggtcagtgc ctccctccag actcgggagg gtcgaggggg cgcgggagag  
 180  
 agcgcgggcg gccgcccggg ctggtcgctt gcagggatgg gggacgagcg gccccactac  
 240  
 tacgggaaac acggaacgcc acagaagtat gatcccaact tcaaaggacc catttacaat  
 300  
 aggggctgca cggatatcat atgctgtgtg ttcctgctcc tggccattgt gggctacgtg  
 360  
 gctgtaggca tcatagcctg gactcatgga gaccctcgaa aggtgatcta cccactgat  
 420  
 agccggggcg agttctgcgg gcagaagggc acaaaaaacg agaacaaacc ctatctgttt  
 480  
 tatttcaaca ttgtgaaatg tgccagcccc ctggttctgc tggaattcca atgtcccact  
 540  
 cccagatct gcgtggaaaa atgccccgac cgctacctca cgtacctgaa tgctgcgagc  
 600  
 tccccggact ttgagtacta taagcagttc tgtgttcctg gtttcaagaa caataaagga  
 660  
 gtggctgagg tgcttcgaga tgggtactgc cctgctgtcc tcatccccag caaaccttg  
 720  
 gcccgagat gcttccccgc tatccacgcc tacaagggtg tctgatggt gggcaatgag  
 780  
 acgacctatg aggatgggca tggctcccg aaaaacatca cagacctggt ggagggcgcc  
 840  
 aagaaagcca atggagtcct agaggcgcg caactcgcca tgcgcatatt tgaagattac  
 900

accgtctctt ggtactggat tatcataggc ctggtcattg ccatggcgat gagcctcctg  
960  
ttcatcatcc tgcttcgctt cctggctggt attatggtct gggatgatgat catcatgggtg  
1020  
attctgggtgc tgggctacgg aatatttcac tgctacatgg agtactcccc actgctggtg  
1080  
gaggccggct ctgatgtctc tttgggtggac ctccgctttc agacggattt ccgggtgtac  
1140  
ctgcacttac ggcagacctg gttggccttt atgatcattc tgagtatcct tgaagtcatt  
1200  
atcatcttgc tgctcatctt tctccggaag agaattctca tcgcgattgc actcatcaaa  
1260  
gaagccagca gggctgtggg atacgtcatg tgctccttgc tctaccact ggtcaccttc  
1320  
ttcttgctgt gcctctgcat cgcctactgg gccagcactg ctgtcttctt gtccacttcc  
1380  
aacgaagcgg tctataagat ctttgatgac agccccctgcc cantttactg cgaaaaacctg  
1440  
nncaaccag agaccttccc ctctccaat gagtcccgcc aatgccccaa tgcccggtgc  
1500  
cagttcgctt tctacgggtg tgagtcgggc taccaccggg ccctgctggg cctgcagatc  
1560  
ttcaatgcct tcatgttctt ctgggtggcc aacttcgtgc tggcgctggg ccaggtcacg  
1620  
ctggccgggg cctttgcctc ctactactgg gccctgcga agccggacga cctgccggcc  
1680  
ttcccgctct tctctgcctt tggccgggcg ctccaggtacc acacaggctc cctggccttt  
1740  
ggcgctca tctggccat tgtgcagatc atccgtgtga tactcgagta cctggatcag  
1800  
cggctgaaag ctgcagagaa caagtttgcc aagtgcctca tgacctgtct caaatgtgc  
1860  
ttctgggtgc tggagaagtt catcaaattc cttaatagga atgcctacat catgattgcc  
1920  
atctacggca ccaatttctg cacctcggcc aggaatgcct tcttctgct catgagaaac  
1980  
atcatcagag tggctgtcct ggataaagtt actgacttcc tcttctggt gggcaaactt  
2040  
ctgatcgttg gtagtgtggg gatcctggct ttcttcttct tccccaccg tatcaggatc  
2100  
gtgcaggata cagcaccacc cctcaattat tactgggttc ctatactgac ggtgatcgtt  
2160  
ggctcctact tgattgcaca cggtttcttc agcgtctatg gcatgtgtgt ggacacgctg  
2220  
ttcctctgct tcttgagga cctggagagg aatgacggct cggccgagag gccttacttc  
2280  
atgtcttcca ccctcaagaa actcttgaac aagaccaaca agaaggcagc ggagtctga  
2340  
aggccccgtg ctccccacct ctcaaggagt ctcatgccgc aggggtgctca gtagctgggt  
2400  
ctgttcccc agcccttgg gctcacctga agtcctatca ctgccgtctt gccctcccc  
2460  
atgagccaga tcccaccagt ttctggacgt ggagagtctg gggcatctcc ttcttatgcc  
2520



aaggggcgct tggagttttc atggctgccc ctccagactg cgagaaacaa gtaaaaaccc  
2580  
attggggcct cttgatgtct gggatggcac gtggcccgac ctccacaagc tccctcatgc  
2640  
ttcctgtccc ccgcttacac gacaacgggc cagaccacgg gaaggacggt gtttgtgtct  
2700  
gagggagctg ctggccacag tgaacaccca cgttttattcc tgccctgctcc ggccaggact  
2760  
gaaccccttc tccacacctg aacagttggc tcaagggcca ccagaagcat ttctttatta  
2820  
ttattatttt ttaacctgga catgcattaa aggggtctatt agctttcttt ccgtctgtct  
2880  
caacagctga gatggggccg ccaaggagtg ccttcctttt gctccctcct agctgggagt  
2940  
gacgggtggg agtgtgtgtg cccagggtggg ggtgtctcct ggctgggaag gagggaaagg  
3000  
gagggagagt tttgcggggg ttggcagtgg agagcaggct ggagaggaga tggctaatag  
3060  
ctgtttaatg gaaacctgct gggctggagg gagttaggct gaatttcccg acttcctctg  
3120  
ccagttattg acacagctct ctttgtaaga gaggaagaa actaaaccca cccaagggat  
3180  
gatttcaggg ggagaggtgg agggcagatg tcctgggcaa accgggcccc tctgcccaca  
3240  
cacctcactt gatccttttg ccaaacttgt caaactcagg ggaactggct tcccagttgc  
3300  
ccctttgcca tattccaagt cccctcaga cttcatgtct ctgctcatca gcactgtccc  
3360  
aggatcctgg agagggagaa cccctggccc caggggaaag aggggggggt ctcccgtttc  
3420  
ctgtgctgc accagccctg ccccatgtgc gtctgcacac ccctgcgtgt aactgcattc  
3480  
caaccactaa taaagtgcct attgtacagg tccaggcctg gtgtgtttgt tgggggcagt  
3540  
gagccagtgg cggctggtag ggggaacccc agcttccaag gccctaggag tctctgaact  
3600  
agggcgattc tctcaaaggg aacgaggagg gggcaggaaa cccactggct gctggctctg  
3660  
cctgaattc  
3669

&lt;210&gt; 3816

&lt;211&gt; 707

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3816

Met	Gly	Asp	Glu	Arg	Pro	His	Tyr	Tyr	Gly	Lys	His	Gly	Thr	Pro	Gln
1				5					10					15	
Lys	Tyr	Asp	Pro	Thr	Phe	Lys	Gly	Pro	Ile	Tyr	Asn	Arg	Gly	Cys	Thr
			20					25					30		
Asp	Ile	Ile	Cys	Cys	Val	Phe	Leu	Leu	Ala	Ile	Val	Gly	Tyr	Val	
	35						40				45				
Ala	Val	Gly	Ile	Ile	Ala	Trp	Thr	His	Gly	Asp	Pro	Arg	Lys	Val	Ile

2962

485 490 495  
 Arg Ala Leu Arg Tyr His Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile  
 500 505 510  
 Leu Ala Ile Val Gln Ile Ile Arg Val Ile Leu Glu Tyr Leu Asp Gln  
 515 520 525  
 Arg Leu Lys Ala Ala Glu Asn Lys Phe Ala Lys Cys Leu Met Thr Cys  
 530 535 540  
 Leu Lys Cys Cys Phe Trp Cys Leu Glu Lys Phe Ile Lys Phe Leu Asn  
 545 550 555 560  
 Arg Asn Ala Tyr Ile Met Ile Ala Ile Tyr Gly Thr Asn Phe Cys Thr  
 565 570 575  
 Ser Ala Arg Asn Ala Phe Phe Leu Leu Met Arg Asn Ile Ile Arg Val  
 580 585 590  
 Ala Val Leu Asp Lys Val Thr Asp Phe Leu Phe Leu Leu Gly Lys Leu  
 595 600 605  
 Leu Ile Val Gly Ser Val Gly Ile Leu Ala Phe Phe Phe Phe Thr His  
 610 615 620  
 Arg Ile Arg Ile Val Gln Asp Thr Ala Pro Pro Leu Asn Tyr Tyr Trp  
 625 630 635 640  
 Val Pro Ile Leu Thr Val Ile Val Gly Ser Tyr Leu Ile Ala His Gly  
 645 650 655  
 Phe Phe Ser Val Tyr Gly Met Cys Val Asp Thr Leu Phe Leu Cys Phe  
 660 665 670  
 Leu Glu Asp Leu Glu Arg Asn Asp Gly Ser Ala Glu Arg Pro Tyr Phe  
 675 680 685  
 Met Ser Ser Thr Leu Lys Lys Leu Leu Asn Lys Thr Asn Lys Lys Ala  
 690 695 700  
 Ala Glu Ser  
 705

&lt;210&gt; 3817

&lt;211&gt; 419

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3817

cgcgttgtagc acaactggga ctttgagcct cgaaagggtt ctcgctgcag catgcgctac  
 60

ctggcgctga tgggtgtctcg gcccgtagtc aggtccggg agatcaaccc tctgctgttc  
 120

agctacgtgg aggagctggt ggagattcgc aagctgcgcc aggacatcct gctcatgaag  
 180

ccgtacttca tcacctgcag ggaggccatg gaggtcgtc tgctgctgca ggacctcctg  
 240

gacgtgcatg ccggccgcct gggctgctcg ctcaccgaga tccacacgct cttcgccaag  
 300

cacatcaagc tggactgcga gcggtgccag gccaaagggt tcgtgtgtga gctctgcaga  
 360

gagggcgacg tgctgttccc gttcgacagc cacacgtctg tgtgcgccga ctgcttcgc  
 419

&lt;210&gt; 3818

&lt;211&gt; 139

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3818

```

Arg Val Val His Asn Trp Asp Phe Glu Pro Arg Lys Val Ser Arg Cys
 1           5           10           15
Ser Met Arg Tyr Leu Ala Leu Met Val Ser Arg Pro Val Leu Arg Leu
      20           25           30
Arg Glu Ile Asn Pro Leu Leu Phe Ser Tyr Val Glu Glu Leu Val Glu
      35           40           45
Ile Arg Lys Leu Arg Gln Asp Ile Leu Leu Met Lys Pro Tyr Phe Ile
 50           55           60
Thr Cys Arg Glu Ala Met Glu Ala Arg Leu Leu Leu Gln Asp Leu Leu
 65           70           75           80
Asp Val His Ala Gly Arg Leu Gly Cys Ser Leu Thr Glu Ile His Thr
      85           90           95
Leu Phe Ala Lys His Ile Lys Leu Asp Cys Glu Arg Cys Gln Ala Lys
      100          105          110
Gly Phe Val Cys Glu Leu Cys Arg Glu Gly Asp Val Leu Phe Pro Phe
      115          120          125
Asp Ser His Thr Ser Val Cys Ala Asp Cys Phe
      130          135

```

&lt;210&gt; 3819

&lt;211&gt; 1731

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3819

```

actcctcccc ctccaggaat gttcatttgt ttggagcctt gggcatccat ctcacagggg
60
agtttgacat ctctactcc cagagcttcg ctcttatatt tcttcacaaa ctgctccatc
120
tccttcacct ctctgggaga caactcatgg cactttgaag ggtcctgggc atgtgcaggg
180
agctgctttg ccagctgctt cttccgttac tgtgccccct ctgagcctgc tactgggcgg
240
cggaagtctg acggcgccgg gcgagtggct gttgagcggc gccgcgggag ttccgcaggt
300
ttcccggtgt cgcagcggag ccggaggcca gctgaacctg gccgtgggat cacggatagg
360
aggaggaggg gacccatagg acgcgttaac atggacctgg aaaacaaagt gaagaagatg
420
ggcttaggtc acgagcaagg atttgagacc ccttgtttaa aatgcaaaga aaaatgtgaa
480
ggattcgaac tgcatttctg gagaaaaata tgtcgtaact gcaagtgtgg ccaagaagag
540
catgatgtcc tcttgagcaa tgaagaggat cgaaaagtgg gaaaactttt tgaagacacc
600
aagtatacca ctctgattgc aaaactaaag tcagatggaa ttcccatgta taaacgcaat
660
gttatgatat tgacgaatcc agttgctgcc aagaagaatg tctccatcaa tacagttacc
720
tatgagtggg ctctcctgt ccagaatcaa gcattggcca ggcagtacat gcagatgcta
780

```

cccaaggaaa agcagccagt agcaggctca gaggggggcac agtaccggaa gaagcagctg  
 840  
 gcaaagcagc tccctgcaca tgaccaggac ccttcaaagt gccatgagtt gtctcccaga  
 900  
 gaggtgaagg agatggagca gtttgtgaag aaatataaga gcgaagctct gggagtagga  
 960  
 gatgtcaaac ttccctgtga gatggatgcc caaggcccca aacaaatgaa cattcctgga  
 1020  
 ggggatagaa gcaccccgagc agcagtgggg gccatggagg acaaactctgc tgagcacaaa  
 1080  
 agaactcaat attcctgcta ttgctgcaaa ctgagtatga aagaagggtga cccagccatc  
 1140  
 tatgccgaaa gggctggcta tgataaactg tggcaccag cttgttttgt ctgcagcacc  
 1200  
 tgccatgaac tccctggtga catgatttat ttttggaga atgagaagct atactgtggc  
 1260  
 agacattact gtgacagcga gaaacccga tgtgctggct gtgacgagct gatattcagc  
 1320  
 aatgagtata cccaggcaga aaaccagaat tggcacctga aacacttctg ctgctttgac  
 1380  
 tgtgatagca ttctagctgg ggagatatac gtgatgggtca atgacaagcc cgtgtgcaag  
 1440  
 ccttgctatg tgaagaatca cgctgtggtg agaagtgttc taaggatatg gttgcctcag  
 1500  
 cctgctttag gacttgagtt tatgcttttc ttaaagcctc ttacaaatgg gaaacagaaa  
 1560  
 gcagtccctc taagtagaaa gcaaattatt cctaccacag ggtgttaaaa tcaaggcaat  
 1620  
 tcaaaaacaa tacatgcatt gactatgagc cacctcaaga tttctacttg tgaaatttac  
 1680  
 aatatcaatt ataggtactg cttaataata aaatcctcac ttaaaaaaaaa a  
 1731

&lt;210&gt; 3820

&lt;211&gt; 535

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3820

Thr	Pro	Pro	Pro	Pro	Gly	Met	Phe	Ile	Cys	Leu	Glu	Pro	Trp	Ala	Ser
1				5					10					15	
Ile	Ser	Gln	Gly	Ser	Leu	Thr	Ser	Pro	Thr	Pro	Arg	Ala	Ser	Leu	Leu
			20					25				30			
Tyr	Phe	Phe	Thr	Asn	Cys	Ser	Ile	Ser	Phe	Thr	Ser	Leu	Gly	Asp	Asn
		35					40				45				
Ser	Trp	His	Phe	Glu	Gly	Ser	Trp	Ser	Cys	Ala	Gly	Ser	Cys	Phe	Ala
	50					55				60					
Ser	Cys	Phe	Phe	Arg	Tyr	Cys	Ala	Pro	Ser	Glu	Pro	Ala	Thr	Gly	Arg
65					70					75				80	
Arg	Lys	Phe	Asp	Gly	Ala	Gly	Arg	Val	Ala	Val	Glu	Arg	Arg	Arg	Gly
				85				90						95	
Ser	Ser	Ala	Gly	Phe	Pro	Cys	Ser	Gln	Arg	Ser	Arg	Arg	Pro	Ala	Glu
			100					105					110		
Pro	Gly	Arg	Gly	Ile	Thr	Asp	Arg	Arg	Arg	Arg	Gly	Pro	Ile	Gly	Arg

115	120	125
Val Asn Met Asp Leu Glu Asn Lys Val Lys Lys Met Gly Leu Gly His		
130	135	140
Glu Gln Gly Phe Gly Ala Pro Cys Leu Lys Cys Lys Glu Lys Cys Glu		
145	150	155
Gly Phe Glu Leu His Phe Trp Arg Lys Ile Cys Arg Asn Cys Lys Cys		
165	170	175
Gly Gln Glu Glu His Asp Val Leu Leu Ser Asn Glu Glu Asp Arg Lys		
180	185	190
Val Gly Lys Leu Phe Glu Asp Thr Lys Tyr Thr Thr Leu Ile Ala Lys		
195	200	205
Leu Lys Ser Asp Gly Ile Pro Met Tyr Lys Arg Asn Val Met Ile Leu		
210	215	220
Thr Asn Pro Val Ala Ala Lys Lys Asn Val Ser Ile Asn Thr Val Thr		
225	230	235
Tyr Glu Trp Ala Pro Pro Val Gln Asn Gln Ala Leu Ala Arg Gln Tyr		
245	250	255
Met Gln Met Leu Pro Lys Glu Lys Gln Pro Val Ala Gly Ser Glu Gly		
260	265	270
Ala Gln Tyr Arg Lys Lys Gln Leu Ala Lys Gln Leu Pro Ala His Asp		
275	280	285
Gln Asp Pro Ser Lys Cys His Glu Leu Ser Pro Arg Glu Val Lys Glu		
290	295	300
Met Glu Gln Phe Val Lys Lys Tyr Lys Ser Glu Ala Leu Gly Val Gly		
305	310	315
Asp Val Lys Leu Pro Cys Glu Met Asp Ala Gln Gly Pro Lys Gln Met		
325	330	335
Asn Ile Pro Gly Gly Asp Arg Ser Thr Pro Ala Ala Val Gly Ala Met		
340	345	350
Glu Asp Lys Ser Ala Glu His Lys Arg Thr Gln Tyr Ser Cys Tyr Cys		
355	360	365
Cys Lys Leu Ser Met Lys Glu Gly Asp Pro Ala Ile Tyr Ala Glu Arg		
370	375	380
Ala Gly Tyr Asp Lys Leu Trp His Pro Ala Cys Phe Val Cys Ser Thr		
385	390	395
Cys His Glu Leu Leu Val Asp Met Ile Tyr Phe Trp Lys Asn Glu Lys		
405	410	415
Leu Tyr Cys Gly Arg His Tyr Cys Asp Ser Glu Lys Pro Arg Cys Ala		
420	425	430
Gly Cys Asp Glu Leu Ile Phe Ser Asn Glu Tyr Thr Gln Ala Glu Asn		
435	440	445
Gln Asn Trp His Leu Lys His Phe Cys Cys Phe Asp Cys Asp Ser Ile		
450	455	460
Leu Ala Gly Glu Ile Tyr Val Met Val Asn Asp Lys Pro Val Cys Lys		
465	470	475
Pro Cys Tyr Val Lys Asn His Ala Val Val Arg Ser Val Leu Arg Ile		
485	490	495
Trp Leu Pro Gln Pro Ala Leu Gly Leu Glu Phe Met Leu Phe Leu Lys		
500	505	510
Pro Leu Thr Asn Gly Lys Gln Lys Ala Val Leu Leu Ser Arg Lys Gln		
515	520	525
Ile Ile Pro Thr Thr Gly Cys		
530	535	

&lt;210&gt; 3821

&lt;211&gt; 5212

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3821

nggtataact ttgttttgct ttgtttcaca atttggttta ataagagtga tttcatttac  
60  
ctcaagtgct atttcttcat aatgctgtgt aatgctaaag ctttgattat gtgcgtgtgt  
120  
ggtttttttc tccaataggc aattatttcc agtcagagaa ggaaaccagt gcctggcatt  
180  
ctcaccatct ttctacctac catgatcaag tgcttgtagc ttgaagtaca agccaaattg  
240  
cgttctgggt tggccataag ctcttgggc caatgtgttg aggaacttgc cctcaacagt  
300  
attgatgctg aagcaaaatg tgtggctgtc aggggtgaata tggaaacctt ccaagttcaa  
360  
gtgatagaca atggatttgg gatggggagt gatgatgtag agaaagtggg aaatcgttat  
420  
ttcaccagta aatgccactc ggtacaggac ttggagaatc caaggtttta tggtttccga  
480  
ggagaggcct tggcaaatat tgctgacatg gccagtgtg tggaaatttc gtccaagaaa  
540  
aacaggacaa tgaaaacttt tgtgaaactg tttcagagtg gaaaagccct gaaagcttgt  
600  
gaagctgatg tgactagagc aagcgctggg actactgtaa cagtgtataa cctattttac  
660  
cagcttcctg taaggaggaa atgcatggac cctagactgg agtttgagaa ggtaggcag  
720  
agaatagaag ctctctcact catgcacct tccatttctt tctctttgag aaatgatgtt  
780  
tctggttcca tggttcttca gctccctaaa accaaagacg tatgttcccg attttgtcaa  
840  
atztatggat tgggaaagtc ccaaagcta agagaaataa gttttaataa taaagagttt  
900  
gagcttagtg gctatatcag ctctgaagca cattacaaca agaatatgca gtttttgttt  
960  
gtgaacaaaa gactagtttt aaggacaaag ctacataaac tcattgactt tttattaagg  
1020  
aaagaaagta ttatatgcaa gccaaagaat ggtcccacca gtaggcaaatt gaattcaagt  
1080  
cttcggcacc ggtctacccc agaactctat ggcatatatg taattaatgt gcagtgccaa  
1140  
ttctgtgagt atgatgtgtg catggagcca gccaaaactc tgattgaatt tcagaactgg  
1200  
gacactctct tgttttgca tccaggaagga gtgaaaatgt ttttaaagca agaaaaatta  
1260  
tttgtggaat tatcaggtga ggatattaag gaatttagtg aagataatgg ttttagttta  
1320  
tttgatgcta ctcttcagaa gcgtgtgact tccgatgaga ggagcaattt ccaggaagca  
1380  
tgtaataata ttttagattc ctatgagatg ttttaatttg agtcaaaagc tgtgaaaaga  
1440

aaaactactg cagaaaacgt aaacacacag agttctaggg attcagaagc taccagaaaa  
1500  
aatacaaatg atgcattttt gtacattttat gaatcagggtg gtccaggcca tagcaaaatg  
1560  
acagagccat ctttacaaaa caaagacagc tcttgctcag aatcaaagat gttagaacaa  
1620  
gagacaattg tagcatcaga agctggagaa aatgagaaac ataaaaaatc tttcctggaa  
1680  
catagctctt tagaaaatcc gtgtggaacc agtttagaaa tgtttttaag cccttttcag  
1740  
acaccatgtc actttgagga gagtgggcag gatctagaaa tatggaaaga aagtactact  
1800  
gttaatggca tggctgcaa catcttgaaa aataatagaa ttcagaatca accaaagaga  
1860  
tttaaagatg ctactgaagt gggatgccag cctctgcctt ttgcaacaac attatgggga  
1920  
gtacatagtg ctacagacaga gaaagagaaa aaaaaagaat ctagcaattg tggaagaaga  
1980  
aatgttttta gttatgggag agttaatta tgttccactg gctttataac tcatgtagta  
2040  
caaatgaaa aaactaaatc aactgaaaca gaacattcat ttaaaaatta tgtagacct  
2100  
ggccccacac gtgccaaga aacatttgga aatagaacac gtcattcagt tgaaactcca  
2160  
gacatcaaag atttagccag cactttaagt aaagaatctg gtcaattgcc caacaaaaaa  
2220  
aattgcagaa cgaatataag ttatgggcta gagaatgaac ctacagcaac ttatacaatg  
2280  
ttttctgctt ttcaggaagg tagcaaaaaa tcacaacagc attgcatatt atctgatata  
2340  
tccccctctt tccccggta tagacacgtt tccaatgata gtaggaaac agataaatta  
2400  
attggtttct ccaaaccaat cgtccgtaag aagctaagct tgagttcaca gctaggatct  
2460  
ttagagaagt ttaagaggca atatgggaag gttgaaaac ctctggatac agaagtagag  
2520  
gaaagtaatg gagtactac caatctcagt cttcaagttg aacctgacat tctgctgaag  
2580  
gacaagaacc gcttagagaa ctctgatgtt tgtaaaatca ctactatgga gcatagtgat  
2640  
tcagatagta gttgtcaacc agcaagccac atccttgact cagagaagtt tccattctcc  
2700  
aaggatgaag attgtttaga acaacagatg cctagtttga gagaaagtcc tatgaccctg  
2760  
aaggagttat ctctctttaa tagaaaacct ttggacctg agaagtcac tgaatcacta  
2820  
gcctctaaat tatccagact gaagggttcc gaaagagaaa ctcaaacaat ggggatgatg  
2880  
agtcgtttta atgaacttcc aaattcagat tccagtagga aagacagcaa gttgtgcagt  
2940  
gtgttaacac aagatttttg tatgttattt aacaacaagc atgaaaaaac agagaatggt  
3000  
gtcatcccaa catcagattc tgccacacag gataattcct ttaataaaaa tagtaaaaca  
3060



cattctaaca gcaatacaac agagaactgt gtgatatcag aaactccttt ggtattgccc  
3120  
tataataatt ctaaagttac cggtaaagat tcagatgttc ttatcagagc ctcagaacaa  
3180  
cagataggaa gtcttgactc tcccagtga atgttaatga atccggtaga agatgccaca  
3240  
ggtgaccaa atggaatttg ttttcagagt gaggaatcta aagcaagagc ttgttctgaa  
3300  
actgaagagt caaacacgtg ttgttcagat tggcagcggc atttcgatgt agccctggga  
3360  
agaatgggtt atgtcaacaa aatgactgga ctcagcacat tcattgcccc aactgaggac  
3420  
attcaggctg cttgtactaa agacctgaca actgtggctg tggatgttgt acttgagaat  
3480  
gggtctcagt acagggtgtca accttttaga agcgaccttg ttcttctttt ccttccgaga  
3540  
gctcgagcag agaggactgt gatgagacag gataacagag atactgtgga tgatactgtt  
3600  
agtagcgaat cgcttcagtc tttgttctca gaatgggaca atccagtatt tgcccgttat  
3660  
ccagagggtg ctgttgatgt aagcagtggc caggctgaga gcttagcagt taaaattcac  
3720  
aacatcttgt atccctatcg tttcaccaaa ggaatgattc attcaatgca ggttctccag  
3780  
caagtagata acaagtttat tgctgtttg atgagcacta agactgaaga gaatggcgag  
3840  
gcagattcct acgagaagca acaggcacia ggctctggtc ggaaaaaatt actgtcttct  
3900  
actctaattc ctccgctaga gataacagtg acagaggaaac aaaggagact cttatgggtg  
3960  
taccacaaaa atctggaaga tctgggcctt gaatttgtat ttccagacac tagtgattct  
4020  
ctggtccttg tgggaaaagt accactatgt tttgtgaaa gagaagccaa tgaacttcgg  
4080  
agaggaagat ctactgtgac caagagtatt gtggaggaat ttatccgaga acaactggag  
4140  
ctactccaga ccaccggagg catccaaggg acattgccac tgactgtcca gaagggtgtg  
4200  
gcatcccaag cctgccatgg ggccattaag tttaatgatg gcctgagctt acaggaaagt  
4260  
tgccgcctta ttgaagctct gtcctcatgc cagctgccat tccagtgtgc tcacgggaga  
4320  
ccttctatgc tgccgttagc tgacatagac cacttggaac aggaaaaaca gattaaacct  
4380  
aacctcacta aacttcgcaa aatggcccag gcctggcgtc tctttgaaa agcagagtgt  
4440  
gatacaaggc agagcctgca gcagtccatg cctccctgtg agccaccatg agaacagaat  
4500  
cactgggtcta aaaggaacaa agggatgttc actgtatgcc tctgagcaga gagcagcagc  
4560  
agcaggtacc agcacggccc tgactgaatc agcccagtgt cctgagcag cttagacagc  
4620  
agggctctct gtatcagtct ttcttgagca gatgattccc ctagttgagt agccagatga  
4680

aattcaagcc taaagacaat tcattcattt gcatccatgg gcacagaagg ttgctatata  
4740  
gtatctacct ttgctactt atttaatgat aaaatttaat gacagtttga aaaaaaaaaa  
4800  
aaaaaaaaatt atttgaaggg gtgggtgatt tttgtttttg tacagttttt tttcaagctt  
4860  
cacatttgcg tgtatctaatt tcagctgatg ctcaagtcca aggggtagtc tgccttccca  
4920  
ggctgcccc aggggtttctg cactggtccc ctcttttccc ttcagtcttc ttcacttccc  
4980  
tatgctgctg cttcatgtgc tacatctcag acttaaagag tttctctact acagtgaaaa  
5040  
cattctctag ggtctttcat caggccttta gttattttag ggataaaaac tattgataaa  
5100  
aaggacaagg atagaacaga gaaaatttaa agtcctgttc cgggtttttt gttatgtttt  
5160  
ctttaaaaaac tcagagactg atgttcaata tcccaaacca gtaaaatggt ga  
5212

&lt;210&gt; 3822

&lt;211&gt; 375

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3822

Met	Val	Tyr	Val	Asn	Lys	Met	Thr	Gly	Leu	Ser	Thr	Phe	Ile	Ala	Pro
1				5					10					15	
Thr	Glu	Asp	Ile	Gln	Ala	Ala	Cys	Thr	Lys	Asp	Leu	Thr	Thr	Val	Ala
			20						25					30	
Val	Asp	Val	Val	Leu	Glu	Asn	Gly	Ser	Gln	Tyr	Arg	Cys	Gln	Pro	Phe
			35				40					45			
Arg	Ser	Asp	Leu	Val	Leu	Pro	Phe	Leu	Pro	Arg	Ala	Arg	Ala	Glu	Arg
			50			55					60				
Thr	Val	Met	Arg	Gln	Asp	Asn	Arg	Asp	Thr	Val	Asp	Asp	Thr	Val	Ser
					70						75				80
Ser	Glu	Ser	Leu	Gln	Ser	Leu	Phe	Ser	Glu	Trp	Asp	Asn	Pro	Val	Phe
				85						90				95	
Ala	Arg	Tyr	Pro	Glu	Val	Ala	Val	Asp	Val	Ser	Ser	Gly	Gln	Ala	Glu
			100					105					110		
Ser	Leu	Ala	Val	Lys	Ile	His	Asn	Ile	Leu	Tyr	Pro	Tyr	Arg	Phe	Thr
			115				120					125			
Lys	Gly	Met	Ile	His	Ser	Met	Gln	Val	Leu	Gln	Gln	Val	Asp	Asn	Lys
			130				135					140			
Phe	Ile	Ala	Cys	Leu	Met	Ser	Thr	Lys	Thr	Glu	Glu	Asn	Gly	Glu	Ala
					150					155				160	
Asp	Ser	Tyr	Glu	Lys	Gln	Gln	Ala	Gln	Gly	Ser	Gly	Arg	Lys	Lys	Leu
				165					170					175	
Leu	Ser	Ser	Thr	Leu	Ile	Pro	Pro	Leu	Glu	Ile	Thr	Val	Thr	Glu	Glu
			180					185					190		
Gln	Arg	Arg	Leu	Leu	Trp	Cys	Tyr	His	Lys	Asn	Leu	Glu	Asp	Leu	Gly
			195				200					205			
Leu	Glu	Phe	Val	Phe	Pro	Asp	Thr	Ser	Asp	Ser	Leu	Val	Leu	Val	Gly
			210			215					220				
Lys	Val	Pro	Leu	Cys	Phe	Val	Glu	Arg	Glu	Ala	Asn	Glu	Leu	Arg	Arg

```

225          230          235          240
Gly Arg Ser Thr Val Thr Lys Ser Ile Val Glu Glu Phe Ile Arg Glu
          245          250          255
Gln Leu Glu Leu Leu Gln Thr Thr Gly Gly Ile Gln Gly Thr Leu Pro
          260          265          270
Leu Thr Val Gln Lys Val Leu Ala Ser Gln Ala Cys His Gly Ala Ile
          275          280          285
Lys Phe Asn Asp Gly Leu Ser Leu Gln Glu Ser Cys Arg Leu Ile Glu
          290          295          300
Ala Leu Ser Ser Cys Gln Leu Pro Phe Gln Cys Ala His Gly Arg Pro
305          310          315          320
Ser Met Leu Pro Leu Ala Asp Ile Asp His Leu Glu Gln Glu Lys Gln
          325          330          335
Ile Lys Pro Asn Leu Thr Lys Leu Arg Lys Met Ala Gln Ala Trp Arg
          340          345          350
Leu Phe Gly Lys Ala Glu Cys Asp Thr Arg Gln Ser Leu Gln Gln Ser
          355          360          365
Met Pro Pro Cys Glu Pro Pro
          370          375

```

&lt;210&gt; 3823

&lt;211&gt; 6280

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3823

```

nngggtgccc actgctcct cgtccccctc cccccaagca acaacaacaa caacaactcc
60
aagcacaccg gccataagag tgcgtgtgtc cccaacatga ccgaacgaag aagggacgag
120
ctctctgaag agatcaacaa cttaagagag aaggtcatga agcagtcgga ggagaacaac
180
aacctgcaga gccaggtgca gaagctcaca gaggagaaca ccacccttcg agagcaagtg
240
gaacccaccc ctgaggatga ggatgatgac atcgaagetcc gcggtgctgc agcagctgct
300
gccccacccc ctccaataga ggaagagtgc ccagaagacc tcccagagaa gttcgatggc
360
aaccagaca tgctggctcc tttcatggcc cagtgccaga tttcatgga aaagagcacc
420
agggatttct cagttgatcg tgtccgtgtc tgcttcgtga caagcatgat gaccggccgt
480
gctgcccgtt gggcctcagc aaagctggag cgctcccact acctgatgca caactaccca
540
gctttcatga tggaaatgaa gcatgtcttt gaagaccctc agaggcgaga ggttgccaaa
600
cgcaagatca gacgcctgcg ccaaggcatg gggctctgtc tcgactactc caatgctttc
660
cagatgattg cccaggacct ggattggaac gagcctgcgc tgattgacca gtaccacgag
720
ggcctcagcg accacattca ggaggagctc tcccacctcg aggtcgccaa gtcgctgtct
780
gctctgattg ggcagtgcac tcacattgag agaaggtctg ccagggctgc tgcagctcgc
840

```

aagccacgct cgccaccccg ggcgctggtg ttgcctcaca ttgcaagcca ccaccaggta  
900  
gatccaaccg agccggtggg aggtgcccgc atgcgcctga cgcaggaaga aaaagaaaga  
960  
cgcagaaagc tgaacctgtg cctctactgt ggaacaggag gtcactacgc tgacaattgt  
1020  
cctgccaaagg cctcaaagtc ttcgccggcg ggaaactccc eggccccgct gtagagggac  
1080  
cttcagcgac cgggccagaa ataataaggc cccacaaga tgatgcctca tctccacact  
1140  
tgcaagtgat gctccagatt catcttccgg gcagacacac cctgttcgtc cgagccatga  
1200  
tcgattctgg tgettctggc aacttcattg atcacgaata tgttgctcaa aatggaattc  
1260  
ctctaagaat caaggactgg ccaatacttg tggaagcaat tgatgggcgc cccatagcat  
1320  
cgggcccagt tgtccacgaa actcacgacc tgatagttga cctgggagat caccgagagg  
1380  
tgctgtcatt tgatgtgact cagtctccat tcttccctgt cgtcctaggg gttcgtggc  
1440  
tgagcacaca tgatcccaat atcacatgga gcactcgatc tatcgtcttt gattctgaat  
1500  
actgccgcta cactgccgg atgtattctc caataccacc atcgtccca ccaccagcac  
1560  
cacaaccgcc actctattat ccagtagatg gatacagagt ttaccaacca gtgaggtatt  
1620  
actatgtcca gaatgtgtac actccagtag atgagcacgt ctaccagat caccgcctgg  
1680  
ttgacctca catagaaatg atacctggag cacacagtat tcccagtga catgtgtatt  
1740  
cactgtccga acctgaaatg gcagctcttc gagattttgt ggcaagaaat gtaaaagatg  
1800  
ggctaattac tccaacgatt gcacctaatg gagcccaagt tctccagggtg aagaggggg  
1860  
ggaaactgca agtttcttat gattgccgag ctccaaacaa ttttactatc cagaatcagt  
1920  
atcctcgcct atctattcca aatttagaag accaagcaca cctggcaacg tacactgaat  
1980  
tcgtacctca aatacctgga taccaaacat accccacata tgccgcgtac ccgacctacc  
2040  
cagtaggatt cgctggtac ccagtgggac gagacggaca aggaagatca ctatatgtac  
2100  
ctgtgatgat cacttggaat ccacactggt accgccagcc tccggtacca cagtaccgc  
2160  
cgccacagcc gccgcctcca ccaccaccac cgccgccgc tccatcttac agtacctgt  
2220  
aaatacctgt catgtccttc aggatctctg cctcaaaaat ttattcctgt tcagcttctc  
2280  
aatcagtgac tgtgtgctaa attttaggct actgtatctt caggccacct gaggcacatc  
2340  
ctctctgaaa cggctatgga aggttagggc cactctggac tggcacacat cctaaagcac  
2400  
caaaagacct tcaacatttt ctgagagcaa cagagtattt gccataaat gatctctcat  
2460

ttttccacct tgactgccaa tctaactaaa ataattaata agtttacttt ccagccagtc  
2520  
ctggaagtct gggttttacc tgccaaaacc tccatcacca tctaaattat aggctgccaa  
2580  
at ttgtgtgt taacatttac agagaagctg atacaaacgc aggaaatgct gatttcttta  
2640  
tgagggggga gacgaggagg aggaggacat gacttttctt gcggtttcgg taccctcttt  
2700  
ttaaatcact ggaggactga ggccttatta aggaatccaa aattatcggt gcagtgtgga  
2760  
aaggcttccg tgatcctctc gctgcacct tagaaacttc accgtcttca aactccattt  
2820  
ccatgggtct gttaattctc aaggagcagc aactcgactg gttctcccag gagcaggaaa  
2880  
aacccttggtg acatgaaaca tctcaggcct gaaaagaaag tgctctctca gatggactct  
2940  
tgcatgttaa gactatgtct tcacatcatg gtgcaaatca catgtaccca atgactccgg  
3000  
ctttgacaca acaccttacc atcatcatgc catgatggct tccacaaagc attaaacctg  
3060  
gtaaccagag attactgggt gctccagcgt tgtagatgt tcatgaaatg tgaccacctc  
3120  
tcaatcacct ttgagggcta aagagtagca catcaaaagg actccaaaat cccatacca  
3180  
actcttaaga gatttgcctt ggtacttcag aaagaatttt catgagtgtt ctttaattggc  
3240  
tgaaaaagca ccagctgacg ttttgaaga atctatccat gtgtctgcct ccatatgcat  
3300  
ctgggcattt catcttcagt cccctcatta gactgtagca ttaggatgtg tggagagagg  
3360  
agaaatgatt tagcaccagc attcacactc ctatgcctgg aagggggaca tctttgaaga  
3420  
agaggaatta gggctgtgga cactgtcttg aggatgtgga cttccttagt gagctccaca  
3480  
ttacttgatg gtaaccactt caaaaggatc agaatccacg taatgaaaaa ggtccctcta  
3540  
gaggatggag ctgatgtgaa gctgccaatg gatgaaaagc ctcagaaagc aactcaaagg  
3600  
actcaaagca acggacaaca caagagtgtt cttcagccca gtgacacctc tgatgtcccc  
3660  
tggaagcttt gtgctaacct gggactgcct gacttccttt agcctgggtc cttgtacta  
3720  
ccttgaactg ttttatctaa cctctctttt tctgtttaat tctttgtac tgccattgac  
3780  
cctgtgcag gatttgtgtc attttcctgc ctggttgctg agactccatt ttgctgccac  
3840  
acacagagat gtaagaggca ggctttaatt gccaaagcac agtttgagca gtagaaaaca  
3900  
acatggtgta tatctcaaat tgcctgacat gaagaggagt ctaacggtga agtttcactt  
3960  
ttcatcagca tcacttttca catgttcatt atcatccgct cttattcttg catgtttaaa  
4020  
cacttaaaat ttttagtata attttagtg tgttttgaag tggtgactag gctttcaaaa  
4080

acttccattg aattacaaag cactatccag ttcttattgt taaactaagt aaaaatgata  
4140  
agtaacatag tgtaaaatat tcctttactg tgaacttctt acaatgctgt gaatgagagg  
4200  
ctcctcagaa ctggagcatt tgtataataa ttcacacctgt tcactctcaa ttttaacatc  
4260  
atatataatt tcaattctat caattgggcc tttaaaaatc atataaaagg atataaaatt  
4320  
tgaaaagaga aacctaattg gctatttaat ccaaaacaac ttttttttct cttcaatgga  
4380  
atcggaagc ttgtcaatca ctcatgtgtt ttagagtaat tacttttaaa atggtgcatt  
4440  
tgtgcttctg aactattttg aagagtcact tctgtttacc tcaagtatca attcatcctc  
4500  
catacatttg aattcaagtt gtttttttgt caaatttaca gttgtcaatt gatcttcaag  
4560  
ctgcaggggtg cctagaaatg ggccgttgtc tgtagccctg gcatgtgcac acggacattt  
4620  
gccaccactg caagcaaaag tctggagaag ttcaccaacg acaagaacga ttagggaaaa  
4680  
tatgctgctg tgggttaaca actcagaaag tcctgatcc acatttggct gtttactaaa  
4740  
gcttgtgatt aactttttgg cagtgtgtac tatgctctat tgctatatat gctatctata  
4800  
aatgtagatg ttaaggataa gtaattctaa atttattatt ctatagtttt gaagtttgg  
4860  
taagtttcct ttcactcaat tgatttattt tgttggttaat caaatttatg ttaattggat  
4920  
cctttaaatt ttttttggca ttttccaaca aaaatggctt tattcataag aaaggaaaaa  
4980  
aatcaatgga atttgatatc taaagaagtt agaaagggag caaaataaaa aacataaagg  
5040  
agatagatga attagtaagc aaatcagtag tcgagttttt caaactggca aaattaatta  
5100  
attgactttt agcccaaatt tacattgtta attaaatcaa gaaggaagaa gatctaagag  
5160  
ctccattga taggcaagcc tagagagaac tagctaaatt tatcatgcta ggatattgaa  
5220  
acacagaaaag tttacatata tttatgaagg gtcaatttag tttggacagt gaggtatttg  
5280  
tcttagtgga aaaaaggaga attagtctga tcaaactgtg aagtaatata gtgaacttgc  
5340  
aggtgcacaa aataagaggg ccacatctat atggtgcagt ctggaattct gtttaagttt  
5400  
gtaggtacct cttggacttc tgaattgatc cagttgtcat ccaccacaga catctcacat  
5460  
cagatacaga cagttccaag attgacaaca gagaacaacc tgctggaaag acctgggcag  
5520  
aatggagag ccctgcggga accatgctac attttcatct aaagagagaa tgcacatctg  
5580  
atgagactga aagttctttg ttgttttaga ttgtagaatg gtattgaatt ggtctgtgga  
5640  
aaattgcatt gcttttattt ctttgtgtaa tcaagtttaa gtaatagggg atatataatc  
5700

ataagcattt taggggtggga gggactatta agtaatttta agtgggtggg gttattttaga  
 5760  
 atggttagaat aatattatgt attagatatc gctataagtg gacatgcgta cttacttgta  
 5820  
 accctttacc ctataattgc tatccttaaa gattttcaaat aaactcggag ggaactgcag  
 5880  
 ggagaccaac ttatttagag cgaattggac atggataaaa accccagtgg gagaaagttc  
 5940  
 aaaggtgatt agattaataa tttaatagag gatgagtgac ctctgataaa ttactgctag  
 6000  
 aatgaacttg tcaatgatgg atggtaaatt ttcattggaag ttataaaagt gataaataaa  
 6060  
 aacccttgct tttacccttg tcagtagccc tctcctacc actgaacccc attgccccta  
 6120  
 cccctccttc taactttatt gctgtattct ctctactcta tttttctctc tatttgctaa  
 6180  
 tattgcattg ctgttacaat aaaaattcaa taaagattta gtgggttaagt gcaaaaaaaaa  
 6240  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 6280

<210> 3824

<211> 342

<212> PRT

<213> Homo sapiens

<400> 3824

Asn	Asn	Asn	Asn	Ser	Lys	His	Thr	Gly	His	Lys	Ser	Ala	Cys	Val	Pro
1				5					10					15	
Asn	Met	Thr	Glu	Arg	Arg	Arg	Asp	Glu	Leu	Ser	Glu	Glu	Ile	Asn	Asn
		20						25					30		
Leu	Arg	Glu	Lys	Val	Met	Lys	Gln	Ser	Glu	Glu	Asn	Asn	Asn	Leu	Gln
		35					40					45			
Ser	Gln	Val	Gln	Lys	Leu	Thr	Glu	Glu	Asn	Thr	Thr	Leu	Arg	Glu	Gln
		50				55					60				
Val	Glu	Pro	Thr	Pro	Glu	Asp	Glu	Asp	Asp	Asp	Ile	Glu	Leu	Arg	Gly
65					70				75					80	
Ala	Ala	Ala	Ala	Ala	Ala	Pro	Pro	Pro	Pro	Ile	Glu	Glu	Glu	Cys	Pro
				85					90					95	
Glu	Asp	Leu	Pro	Glu	Lys	Phe	Asp	Gly	Asn	Pro	Asp	Met	Leu	Ala	Pro
		100						105					110		
Phe	Met	Ala	Gln	Cys	Gln	Ile	Phe	Met	Glu	Lys	Ser	Thr	Arg	Asp	Phe
		115					120					125			
Ser	Val	Asp	Arg	Val	Arg	Val	Cys	Phe	Val	Thr	Ser	Met	Met	Thr	Gly
		130				135					140				
Arg	Ala	Ala	Arg	Trp	Ala	Ser	Ala	Lys	Leu	Glu	Arg	Ser	His	Tyr	Leu
145					150					155				160	
Met	His	Asn	Tyr	Pro	Ala	Phe	Met	Met	Glu	Met	Lys	His	Val	Phe	Glu
				165					170					175	
Asp	Pro	Gln	Arg	Arg	Glu	Val	Ala	Lys	Arg	Lys	Ile	Arg	Arg	Leu	Arg
		180						185				190			
Gln	Gly	Met	Gly	Ser	Val	Ile	Asp	Tyr	Ser	Asn	Ala	Phe	Gln	Met	Ile
		195					200					205			
Ala	Gln	Asp	Leu	Asp	Trp	Asn	Glu	Pro	Ala	Leu	Ile	Asp	Gln	Tyr	His

```

      210      215      220
Glu Gly Leu Ser Asp His Ile Gln Glu Glu Leu Ser His Leu Glu Val
225      230      235      240
Ala Lys Ser Leu Ser Ala Leu Ile Gly Gln Cys Ile His Ile Glu Arg
      245      250      255
Arg Leu Ala Arg Ala Ala Ala Arg Lys Pro Arg Ser Pro Pro Arg
      260      265      270
Ala Leu Val Leu Pro His Ile Ala Ser His His Gln Val Asp Pro Thr
      275      280      285
Glu Pro Val Gly Gly Ala Arg Met Arg Leu Thr Gln Glu Glu Lys Glu
      290      295      300
Arg Arg Arg Lys Leu Asn Leu Cys Leu Tyr Cys Gly Thr Gly Gly His
305      310      315      320
Tyr Ala Asp Asn Cys Pro Ala Lys Ala Ser Lys Ser Ser Pro Ala Gly
      325      330      335
Asn Ser Pro Ala Pro Leu
      340

```

&lt;210&gt; 3825

&lt;211&gt; 2051

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3825

```

nggacacctc acaggtgctc ctccgaggag agggagggcg ccctgcgtcc ggcagaggag
60
ggcagcatcc cgctcaggtg atgaggaacc cctcgcgcac ccagcgcaga aggctgctgc
120
cgccggacgc ctccattgtt tgaccacaac aagggccgga ttctcaccca ggatcctaag
180
gcctttgtag tccttcagcc actgtgggcc ctgcctctgc ctgttcttct ggaatgtctt
240
ggggggtttg atcctgtcac tgtgacctgc aaatccaaga gacacatctt tggaagataa
300
gagagcttct tcaagaccaa aaaaggagac ggcattgatac ccatgtaggg aattcccca
360
agcagggtct gccatactg gaccccgagg agcctgcttg ctggaaaggc tttctgtct
420
gatgtgcagg aggcagaatg ccaaactgac tcttcaagg gcaactgcag gggctcgaga
480
ccagccagca gtatctcatc cttegataca ggggatatac tgtacagtcc tttttctaga
540
agtgcagcat acaagattac tctacaanga ggaagattcc aggggtcaa aaacgcaa
600
gtttgcactt tgagagcccc ttggaatgtt gacaactcag gatctaaaac aaagtctctg
660
gttaatgagt tacagaattc acgtggaagt caatgtcact ttataatcga taataatac
720
gagtggaggaa cactatgcag gaagaaacct tccgtagaaa gacaggcagg gnnaaaagct
780
taggctgacc ttaaacttac ctaatagagc aagcctgaga tagactgcca aaatggccaa
840
ataagagact ctatgaaata acagtcttgt aactgtagta atcataagga aattttctcc
900

```



ttgaaatcac gataccaaat aggaaaaatg atctacaagt gcccacatgtg tagggaattt  
 960  
 ttctctgaga gatgccgagg tggtcagtat cctgactttc agaggccttt ttttgtttgt  
 1020  
 ttttaattttt actagattga tattaataaac tcatgtggag gaactcaagg aatgtttaga  
 1080  
 agaccaaag tcccaatga caggaacaaa agcaaccaat ttttaacttt ctcttctcat  
 1140  
 tcctgttttc attgatttcc cacatgtagt ccttttgctc aggaagtctt tggggaaatt  
 1200  
 aaggatcttt gaagctctga aataggtgat caggtagtg gtgtctgtca gctgtctaag  
 1260  
 aggttggaag atgaactact caagatagtc acgaaaatac tgaaagtgtg attttcttt  
 1320  
 ccatatttga attaatattt tctgtttgac tggaaggggt ttttgtataa ctaaaacctc  
 1380  
 agcgcataaa ggagatttaa aaggagcaca tgatttagtg ggtgggccat gaaactagag  
 1440  
 atgggatttg ggggtgaatt tgtcaatata tggattttta tccagacata tctgctaaca  
 1500  
 agccttttgt aagtcacttc agatactttt cctccttttt acaaagagag ggctggctta  
 1560  
 gttatttgcc aaagcccctt ccaggcctga attccacaag tacaatttac tgtagtgtct  
 1620  
 tatcactctt tcatgtcaca atagcgtgga gcattagaga aaagcctaga ctttttagttg  
 1680  
 atagccagtt gaaatatcat tgatagaatt ttagtttttag gaaaaattgg tttgatttct  
 1740  
 agctttatta ctattaggta tgtgagcttg ggcaaatcgc ttaatctttg agtctagttt  
 1800  
 tctctcaaaa tgagaacatt aggctaaatg atttccgagt ttccagctag tccatagatt  
 1860  
 ctatatttct acatagttga attattttat catgctgttg ctggggaata tgactaacc  
 1920  
 ttttgaagct actaatttta tgtcgagctt taaagtccat aattgttatc ttcagaaaa  
 1980  
 attatttgac ctacagtatg tccaaatcaa ttaataaaaa tcgctttata acaggaaaaa  
 2040  
 aaaaaaaaaa a  
 2051

<210> 3826

<211> 125

<212> PRT

<213> Homo sapiens

<400> 3826

Gly	Ile	Pro	Gln	Ser	Arg	Ala	Cys	His	Thr	Trp	Thr	Pro	Arg	Ser	Leu
1				5					10					15	
Leu	Ala	Gly	Lys	Ala	Phe	Leu	Ser	Asp	Val	Gln	Glu	Ala	Glu	Cys	Gln
		20						25					30		
Thr	Asp	Ser	Ser	Arg	Gly	Asn	Cys	Arg	Gly	Ser	Arg	Pro	Ala	Ser	Ser
		35					40					45			
Ile	Ser	Ser	Phe	Asp	Thr	Gly	Asp	Ile	Leu	Tyr	Ser	Pro	Phe	Ser	Arg

50		55		60											
Ser	Glu	Thr	Tyr	Lys	Ile	Thr	Leu	Gln	Xaa	Gly	Arg	Phe	Gln	Gly	Leu
65					70					75				80	
Lys	Asn	Ala	Lys	Val	Cys	Thr	Leu	Arg	Ala	Pro	Trp	Asn	Val	Asp	Asn
			85						90					95	
Ser	Gly	Ser	Lys	Thr	Lys	Phe	Cys	Val	Asn	Glu	Leu	Gln	Asn	Ser	Arg
			100					105					110		
Gly	Ser	Gln	Cys	His	Phe	Ile	Ile	Asp	Asn	Asn	Thr	Glu			
		115					120					125			

&lt;210&gt; 3827

&lt;211&gt; 1245

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3827

nacgcgtgcc ggagcagcaa acccaggcca gcctgaaaag tcacctctgg cgctcagcgt  
 60  
 ctctggagag cgtggagtgt caactgttga tgactgggtt tatattgagg agccccgagc  
 120  
 gtgcagaaca agagtcccaa gtcagatgaa gaggccgaga gcactaaaga agctcagaat  
 180  
 gaattatttg aagcacaagg acagctgcag acctgggatt ctgaggactt tgggagcccc  
 240  
 cagaagtcct gcagcccctc ctttgacacc ccagagagcc agatccgggg cgtgtgggaa  
 300  
 gagctggggg tgggcagcag cggacacctg agcagcagag agctggctgt ggtctgccag  
 360  
 agcgtcgggc tccagggact cgagaaaagag gaactcgaag acctgtttaa caaactggat  
 420  
 caagacggag acggcaaagt gagtcttgag gaattccagc ttggcctctt cagtcatgag  
 480  
 cccgcgtac ttctagagtc ttccactcgg gttaaaccga gcaaggcttg gtctcattac  
 540  
 caggccccag aggagagcgg ctgccacacc accacaacct catcctcgt gtccctgtgc  
 600  
 tccagcctgc gcctcttctc cagcattgac gatggttctg gcttcgcttt tctgatcag  
 660  
 gtccctggcca tgtggaccca ggaggggatt cagaatggca gggagatctt gcagagcctg  
 720  
 gacttcagcg tggacgagaa ggtgaacctt ctggagctga cctgggccct tgacaacgag  
 780  
 ctcatgacag tggacagtgc cgtccagcag gcagccctgg cctgctacca ccaggagctg  
 840  
 agctaccagc aagggcaggt ggagcagctg gcaagggagc gtgacaaggc aaggcaggac  
 900  
 ctggagaggg ccgagaagag gaacctggag tttgtgaaag agatggacga ctgccactcc  
 960  
 accctggagc agctcacgga gaagaaaatc aagcatctgg agcaggggta ccgggaaagg  
 1020  
 ctgagccctc tcggtctga ggtggaggcg gagcgagagc tgttctggga gcaggccac  
 1080  
 aggcagaggg ccgcgctgga gtgggacgtg gggcgctgc aggctgagga ggctggcctc  
 1140

cgcgagaagc tgaccctggc cctgaaggaa aacagtcgcc tacagaagga gattgtggaa  
 1200  
 atgggtggaaa agcttttcgga ttcggagagg ctggccctga agctg  
 1245

<210> 3828

<211> 379

<212> PRT

<213> Homo sapiens

<400> 3828

Gly	Ala	Pro	Ser	Val	Gln	Asn	Lys	Ser	Pro	Lys	Ser	Asp	Glu	Glu	Ala
1				5					10				15		
Glu	Ser	Thr	Lys	Glu	Ala	Gln	Asn	Glu	Leu	Phe	Glu	Ala	Gln	Gly	Gln
			20					25					30		
Leu	Gln	Thr	Trp	Asp	Ser	Glu	Asp	Phe	Gly	Ser	Pro	Gln	Lys	Ser	Cys
			35				40					45			
Ser	Pro	Ser	Phe	Asp	Thr	Pro	Glu	Ser	Gln	Ile	Arg	Gly	Val	Trp	Glu
			50			55					60				
Glu	Leu	Gly	Val	Gly	Ser	Ser	Gly	His	Leu	Ser	Glu	Gln	Glu	Leu	Ala
65				70					75					80	
Val	Val	Cys	Gln	Ser	Val	Gly	Leu	Gln	Gly	Leu	Glu	Lys	Glu	Glu	Leu
			85						90					95	
Glu	Asp	Leu	Phe	Asn	Lys	Leu	Asp	Gln	Asp	Gly	Asp	Gly	Lys	Val	Ser
			100					105					110		
Leu	Glu	Glu	Phe	Gln	Leu	Gly	Leu	Phe	Ser	His	Glu	Pro	Ala	Leu	Leu
			115				120						125		
Leu	Glu	Ser	Ser	Thr	Arg	Val	Lys	Pro	Ser	Lys	Ala	Trp	Ser	His	Tyr
			130			135						140			
Gln	Val	Pro	Glu	Glu	Ser	Gly	Cys	His	Thr	Thr	Thr	Thr	Ser	Ser	Leu
145					150					155					160
Val	Ser	Leu	Cys	Ser	Ser	Leu	Arg	Leu	Phe	Ser	Ser	Ile	Asp	Asp	Gly
			165						170					175	
Ser	Gly	Phe	Ala	Phe	Pro	Asp	Gln	Val	Leu	Ala	Met	Trp	Thr	Gln	Glu
			180					185					190		
Gly	Ile	Gln	Asn	Gly	Arg	Glu	Ile	Leu	Gln	Ser	Leu	Asp	Phe	Ser	Val
		195				200						205			
Asp	Glu	Lys	Val	Asn	Leu	Leu	Glu	Leu	Thr	Trp	Ala	Leu	Asp	Asn	Glu
		210			215						220				
Leu	Met	Thr	Val	Asp	Ser	Ala	Val	Gln	Gln	Ala	Ala	Leu	Ala	Cys	Tyr
225				230						235				240	
His	Gln	Glu	Leu	Ser	Tyr	Gln	Gln	Gly	Gln	Val	Glu	Gln	Leu	Ala	Arg
			245						250					255	
Glu	Arg	Asp	Lys	Ala	Arg	Gln	Asp	Leu	Glu	Arg	Ala	Glu	Lys	Arg	Asn
			260					265					270		
Leu	Glu	Phe	Val	Lys	Glu	Met	Asp	Asp	Cys	His	Ser	Thr	Leu	Glu	Gln
		275				280						285			
Leu	Thr	Glu	Lys	Lys	Ile	Lys	His	Leu	Glu	Gln	Gly	Tyr	Arg	Glu	Arg
		290			295						300				
Leu	Ser	Leu	Leu	Arg	Ser	Glu	Val	Glu	Ala	Glu	Arg	Glu	Leu	Phe	Trp
305				310						315				320	
Glu	Gln	Ala	His	Arg	Gln	Arg	Ala	Ala	Leu	Glu	Trp	Asp	Val	Gly	Arg
			325					330						335	
Leu	Gln	Ala	Glu	Glu	Ala	Gly	Leu	Arg	Glu	Lys	Leu	Thr	Leu	Ala	Leu

	340		345		350										
Lys	Glu	Asn	Ser	Arg	Leu	Gln	Lys	Glu	Ile	Val	Glu	Met	Val	Glu	Lys
	355		360		365										
Leu	Ser	Asp	Ser	Glu	Arg	Leu	Ala	Leu	Lys	Leu					
	370		375												

&lt;210&gt; 3829

&lt;211&gt; 5713&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3829

```

naccggtgac tgtatcccgt ggttttctcac ttaggactct ttttatcccc acccagaaca
60
caggagtcct gacctgcgtt ctgaagcatt tggaatacaa cggtcacatt taagaccctg
120
gaggaggagc tatttgggaa caatgaggag agcccagctt ttaaggagtt cttggacctg
180
ctgggggaca cgatcacact gcaggatttc aaaggtttcc gaggaggcct ggacgtgacc
240
cacggacaga caggggtgga atcagtgtac acaacattcc gggacaggga gatcatgttt
300
cacgtttcca caaagctgcc atttaccgac ggagacgccc agcagctcca gagaaagaga
360
cacattggaa atgacatcgt ggccatcatc ttccaagagg aaaacacgcc gtttgtccca
420
gacatgatag cctccaattt cttacatgcc tacatcgctg tgcaggtcga gaccccaggc
480
acagagaccc catcctacaa ggtctctgtc actgcgcggg aagatgtgcc cacctttggt
540
ccacctctgc ccagtcccc cgttttccag aagggcccg aattcaggga gtttctgctc
600
accaagctca ccaatgccga gaacgcctgc tgcaagtcgg acaagtttgc aaagctggag
660
gaccggacca gggctgcctt cctggacaac cttcacgatg agtccacgc ccacacacag
720
gccatgctgg gactgggccc agaggaggac aagtttgaga atggaggcca cgggggggtc
780
ctggagtctt ttaagagggc catccgcgta cgcagccact ccatggagac catggtgggc
840
ggccagaaga agtcgcacag tgggggcac cctggcagcc tcagcggggg catctccac
900
aacagcatgg aggtcaccaa gaccaccttc tcgcctccag tggtgggcgc aacggtgaag
960
aaccagtcac ggagtcccat caagcgacgc tcggggctct tccccgcct gcacacgggc
1020
tcagaaggcc agggcgacag ccgggcacga tgtgacagca catccagcac acccaagacc
1080
ccagatggtg gacactctc tcaggagata aagtctgaga cctcatccaa tcccagctct
1140
ccagaaatct gcccacaa ggagaagccc ttcatgaagt tgaaggaaaa cggccgcgcc
1200
atctcccgct cctcctccag caccagcagc gtcagcagca ctgcagggga gggcgaggcc
1260

```

atggaggagg gcgacagtgg gggcagccag ccgccacga cctcaccctt caagcaggag  
1320  
gtgtttgtct acagcccgtc cccgagcagc gagagcccca gcctgggggc agctgccacc  
1380  
ccgatcatca tgagccggag tcccacagat gccaaaagca gaaactcccc gagatcgaac  
1440  
ctgaaattcc gctttgacaa gctcagccat gccagctctg gtgcgggtca ctaatgtgaa  
1500  
agtggagtcc ttgcctgtc caaggggaatc ccctcttctg tcttgaaaa ggctcctgac  
1560  
ctcccagtgt gatgtccggg tcctttatca tcctattcat cctggagagg aaaagtgtcg  
1620  
ggcaaagggg gatctggggg gagctcagca gtgactgggg agctgggtctg cctcagagac  
1680  
agagtagggg gtgggagcag agcctcgggt aggggtcttg ccacagggca gtgccttctc  
1740  
gaacgtggca ggctttacta ccaggaacgc actcgggtgt ggaggcccca tggtcccagg  
1800  
agccaagatt cgtagcatcc ttgaggccat cctgataaaa ttgggcgcta ttgccccgt  
1860  
agctctggag ctctaaaccg tctatctgct tctgtgctga acgcctttcc catctgctga  
1920  
cgtaggcccc gggctgcctt gccctgctg ccagtgtacc gtgagcgggg ctccagccag  
1980  
ttcaagctca gagccagagc tggacgggcc agaactgcgc tgcacacttc ctggactgag  
2040  
gcggggactt tgggtccac ccggtttctc ctgattatgg ctgctgtggg gtgaggggag  
2100  
ggagggggcag ccccgaggca gtctcttccc ttgagaaga tattttccca caaaggggtg  
2160  
ggaagccagg agtgagaagg aattcagggg gagcaaagga gccagtgtct agatgtgtct  
2220  
gtgttggttg aggaaaacct cgggcctgag ggccaggccg gagcccaggt ctctgctgac  
2280  
aatgggggtt cagggagac gtcgttatct cccctcccca cttactcgag gagagaggtg  
2340  
agggggggat gacttgccgg ttctgatcag gccctgggt ggggaagggg cacagtgtcc  
2400  
ctcagcagct tacgcccctg gagtcttggg gggcccagcc tggccctggg gccttttcca  
2460  
gctactgtgc ccttgggcag ctgcgtctgg ggctcaacct cccaatcctg ttccctctc  
2520  
cagctgcggg tctgtaggca gctgtcacat ctgaagggtt tctgcaacct ggaccccatc  
2580  
tgggtgtggg tcagaccctg tgaccacat gccacccca ccctccacag agcccccttg  
2640  
ctgggacagc cagctcacct ccaaggacat cccctcctgg cttctcccc ttccgagtct  
2700  
gcagcgccgt gggcttctct gccgatgggc cgggttggg gttaagggtg gcaccccca  
2760  
ggtacaacga gcctgaagag cccctttcag tgcagacggg gctgcagagt gacactggct  
2820  
gggcacctgc cccacgacca atgacaagga tttccagctg aatgctttat tcccataggg  
2880

atctggacct gtgccaaga tataaatact acactttttt ttttttttt tttttaactg  
2940  
acattgtgaa attctcccta tagcttttgc cattcaagca acattgtgat ctttcttccc  
3000  
cgccacgtgt gtgggaatga ttgagtcctg tttgcaagct ggagaggagc tctcccttgg  
3060  
ctagtacttt ctctaaagta ctagtctagt aaaatttatt cttgttagaa ggtcaacaaa  
3120  
atatctgttt agcttttatg aagagtcacc gtagcagccc ccacggctgg aaagaggcct  
3180  
gtacgttctg gacgcgtttt gttggctggg cttctggagg cactggcaag gtcaaaactgc  
3240  
atctctttaa gaacagttgc aggatctggc ttgcctctgt ggggaagccgg cattacaggt  
3300  
gcttggtgga tgggccgtgt cacattgcca tctgggggtcc tttggggttt ccaggttgtc  
3360  
accatgctgt ccattttggg aatcccatac ctgctgtcc ccactgcgct ggctgacctt  
3420  
tgctgcctgc tgctcttgg gagggctttg tccctgcctc tgagctggtg ggcaggatgg  
3480  
ctgggtggcc ccagagaag cacagacctg ggatggggtc tccatgcccg gtttgcgtt  
3540  
ggaatgatct gaacaggacc ccaaatgcct cttccctctg gtcctgcctc actatctcta  
3600  
ggagctccat cctgtggctt ccagagtgtg cacttccagc ccacccgggc agtgcgtgaga  
3660  
gggaggagga gaacaaggat ggcccagcct cccctccctc ccctagacca cggggcgggc  
3720  
agctcgggtt cctggagggc tgtttccccc acgtgtccc tacatctgct ctgatctaaa  
3780  
atgtctttcc ttttatgctg cgcccagtct tggggctcaa agatttgccc aaacctcatt  
3840  
ggccctcgtg actaggetca tctagatggg gctcacgctg gtgtttgagg catttccact  
3900  
gtgatctcca cgaggggatg ttttccggga cacatctctg gctctgggaa ctgcctgact  
3960  
cactgaagaa actacttttc aggcactgta gggtcaccca tatgcctcca gctcagttga  
4020  
cgcttaaaaa caggtgcaga aaagctcgcg atggaaggtc ttaatgagag tgtctgtcta  
4080  
tgccagtcac gtaaaatgac gtttcttgaa aaagattcag tggttcagct ttgtcagcat  
4140  
catctcaaca caagcctgct ggctcttttt agcatctcat ccaacctgt catcgtccag  
4200  
atgagaaatc ttagcccagg tgaggggagt aacttgcttg aggtcacaca gctggctgtt  
4260  
ggcaaagctg ggattagaac cctcaacca gggtcccttc ctctgcagcg cctacatggg  
4320  
tggttgaata agtggctgcg tttcctgggg ccctgggttt tggggaagcc agttagctgc  
4380  
tgctttggca ctggcatgga ggtgagcagt caaggatgct ggtgaggccg cagtttctgc  
4440  
tctttttcat caggggggat agtctctagg atttttcagt gaggaccctt gggctttgga  
4500

tgcagcttga accaagaaaa cgaggagggga aagggtattca gtgaactatt cctcagtggg  
 4560  
 atcggttctt cagctcctga tgggggctgt gtaatggggg cagaggccag ggaaaaagat  
 4620  
 gctgttcacc caccctcagc ttcccttttc cttaaattaag aggaaaagtg gtcaaagaaa  
 4680  
 aactcttcat ttctccctga ttcttaagcg aagggtggta atagaaactc aggctcccgt  
 4740  
 gacaaggcag gacaagagcc tgtttcgctt tcctccctga ccctgccagg tgccaactca  
 4800  
 aacactacct ttctcattgg tttctaagtc agtagagaca gatctgtttt aagcagttgg  
 4860  
 gggttcgagt agatctcatg ggtacaggag gccagcaggg accaggccag tcagccatgc  
 4920  
 tcaggacccc tcggctcctc ccccgacctc tagctacctc gtatcgaggc aaggggaggc  
 4980  
 cagtaaagtt tgccaagcct gatcctgcag cctgggtgggg ctggctgggg tattctttta  
 5040  
 ccaaactctg tttaccgcc agccccttgt acacccaat cccatgtctc cctcccttca  
 5100  
 gctggaccgt gtgccccttt gggaggaaga agacaagccc cactagggcc aagggcagca  
 5160  
 gagccctgcc gagtgagagg ctgtggggca gcggctctgt cctgtgcctt accagccctg  
 5220  
 gggaggggga catttggtcg gaagactgga atttaattgc catcgtcttt gattttgtga  
 5280  
 cattttctgt tggaagtgtg aactaccctc cccccccgc ttctgctcc ttagcatgcg  
 5340  
 tgcagctctc tcctgttttg ggtgttcccc ttggacactc cagctcgggg actgctggcg  
 5400  
 tgtgagtgtg cagattcccc tgtgtggtcg aacctaagaa ctgtggcttg gaagtgatgc  
 5460  
 tccatgtgac gacgactttg ctttctttcc tcttagtgag gaggtgattc gtagatocca  
 5520  
 actgcctatg taatgtaaat aatgtacatt taatttattg ctatggtagc acattgtatt  
 5580  
 tgttaatgta caaaacaaat tctaaaaggt tgacaaatgt atattttgtt gcttaaatgt  
 5640  
 gtctttgcag aaattgacaa taaataacat attttgtgtc aaaaaaaaaa aaaaaaaaaa  
 5700  
 aaaaaaaaaa aaa  
 5713

&lt;210&gt; 3830

&lt;211&gt; 444

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3830

Phe Lys Glu Phe Leu Asp Leu Leu Gly Asp Thr Ile Thr Leu Gln Asp  
 1 5 10 15  
 Phe Lys Gly Phe Arg Gly Gly Leu Asp Val Thr His Gly Gln Thr Gly  
 20 25 30  
 Val Glu Ser Val Tyr Thr Thr Phe Arg Asp Arg Glu Ile Met Phe His

```

      35      40      45
Val Ser Thr Lys Leu Pro Phe Thr Asp Gly Asp Ala Gln Gln Leu Gln
  50      55      60
Arg Lys Arg His Ile Gly Asn Asp Ile Val Ala Ile Ile Phe Gln Glu
  65      70      75      80
Glu Asn Thr Pro Phe Val Pro Asp Met Ile Ala Ser Asn Phe Leu His
      85      90      95
Ala Tyr Ile Val Val Gln Val Glu Thr Pro Gly Thr Glu Thr Pro Ser
      100      105      110
Tyr Lys Val Ser Val Thr Ala Arg Glu Asp Val Pro Thr Phe Gly Pro
      115      120      125
Pro Leu Pro Ser Pro Pro Val Phe Gln Lys Gly Pro Glu Phe Arg Glu
      130      135      140
Phe Leu Leu Thr Lys Leu Thr Asn Ala Glu Asn Ala Cys Cys Lys Ser
  145      150      155      160
Asp Lys Phe Ala Lys Leu Glu Asp Arg Thr Arg Ala Ala Leu Leu Asp
      165      170      175
Asn Leu His Asp Glu Leu His Ala His Thr Gln Ala Met Leu Gly Leu
      180      185      190
Gly Pro Glu Glu Asp Lys Phe Glu Asn Gly Gly His Gly Gly Phe Leu
      195      200      205
Glu Ser Phe Lys Arg Ala Ile Arg Val Arg Ser His Ser Met Glu Thr
      210      215      220
Met Val Gly Gly Gln Lys Lys Ser His Ser Gly Gly Ile Pro Gly Ser
  225      230      235      240
Leu Ser Gly Gly Ile Ser His Asn Ser Met Glu Val Thr Lys Thr Thr
      245      250      255
Phe Ser Pro Pro Val Val Ala Ala Thr Val Lys Asn Gln Ser Arg Ser
      260      265      270
Pro Ile Lys Arg Arg Ser Gly Leu Phe Pro Arg Leu His Thr Gly Ser
      275      280      285
Glu Gly Gln Gly Asp Ser Arg Ala Arg Cys Asp Ser Thr Ser Ser Thr
      290      295      300
Pro Lys Thr Pro Asp Gly Gly His Ser Ser Gln Glu Ile Lys Ser Glu
  305      310      315      320
Thr Ser Ser Asn Pro Ser Ser Pro Glu Ile Cys Pro Asn Lys Glu Lys
      325      330      335
Pro Phe Met Lys Leu Lys Glu Asn Gly Arg Ala Ile Ser Arg Ser Ser
      340      345      350
Ser Ser Thr Ser Ser Val Ser Ser Thr Ala Gly Glu Gly Glu Ala Met
      355      360      365
Glu Glu Gly Asp Ser Gly Gly Ser Gln Pro Ser Thr Thr Ser Pro Phe
      370      375      380
Lys Gln Glu Val Phe Val Tyr Ser Pro Ser Pro Ser Ser Glu Ser Pro
  385      390      395      400
Ser Leu Gly Ala Ala Thr Pro Ile Ile Met Ser Arg Ser Pro Thr
      405      410      415
Asp Ala Lys Ser Arg Asn Ser Pro Arg Ser Asn Leu Lys Phe Arg Phe
      420      425      430
Asp Lys Leu Ser His Ala Ser Ser Gly Ala Gly His
      435      440

```

&lt;210&gt; 3831

&lt;211&gt; 726



&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3831

aaatttggtg cagaagtttc ttgccttggt ttttaaggct gaggagtggg aaacattctg  
 60  
 tgtgaacaat taagagagac ttgtggcaga agtagatttc tttggcattt gcacacagga  
 120  
 gtcagaaaca aatgatgtcc atagcatttg gctgggctaa cgtctaaagt cgtagctttt  
 180  
 agacgagtat gagttctcac tctgtgttac ctgctgagtc cctgagggca tgtgagttca  
 240  
 gtcctgaaac agaccactg nccgtgtcac agatcccagc ttcgctaagc tcagcttttag  
 300  
 catgttatgg tttatcgttt ctccagctcc attccacaaa ctctcatata gatagaatta  
 360  
 atttcagtgt aaaaatggtg tcattctattc ttcagatacc taagttgtca tatctggggc  
 420  
 tgggagacat taaaaatatg gagcaaaaat actgcaacct gtgtatccaa cttttcatct  
 480  
 cttttcttct ccttacagtc cagacctttt agccctccca ttcattcttc cagccctcct  
 540  
 ccaatagcac ccttagcgcg ggctgaaagc acttcttcaa tatcggaac caattccttg  
 600  
 agcgcagcca ccactcccac agttgagaat gaacagcctt ccctcgtttg ggttgacaga  
 660  
 ggaaagggtt atttgacttt tgaaggttct tccaggggac ccagcccctt aaccatggga  
 720  
 gctcag  
 726

&lt;210&gt; 3832

&lt;211&gt; 107

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3832

Met	Ser	Ser	His	Ser	Val	Leu	Pro	Ala	Glu	Ser	Leu	Arg	Ala	Cys	Glu
1				5					10					15	
Phe	Ser	Pro	Glu	Thr	Asp	Pro	Leu	Xaa	Val	Ser	Gln	Ile	Pro	Ala	Ser
			20					25					30		
Leu	Ser	Ser	Ala	Leu	Ala	Cys	Tyr	Gly	Leu	Ser	Phe	Leu	Gln	Leu	His
		35				40					45				
Ser	Thr	Asn	Ser	His	Ile	Asp	Arg	Ile	Asn	Phe	Ser	Val	Lys	Met	Val
	50				55					60					
Ser	Ser	Ile	Leu	Gln	Ile	Pro	Lys	Leu	Ser	Tyr	Leu	Gly	Leu	Gly	Asp
65				70					75					80	
Ile	Lys	Asn	Met	Glu	Gln	Lys	Tyr	Cys	Asn	Leu	Cys	Ile	Gln	Leu	Phe
			85					90					95		
Ile	Ser	Phe	Leu	Leu	Leu	Thr	Val	Gln	Thr	Phe					
			100					105							

&lt;210&gt; 3833

&lt;211&gt; 1764

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3833

gctagcggca gcgccgggaa gccactggc gaggcggctt ctccggctcc tgcgagcgcc  
60  
ggcgggcggg ccagctcgca gccgcggaag aagctggtat ccgtctgca ccactgcaag  
120  
ggcaagatgc agctggtggc tgacctgctg ctgctgtcga gcgaggcgcg gcccggtgctc  
180  
ttcgagggcc ccgcctcctc tggtgccggc gccgagtcct tcgagcaggg ccgggacacc  
240  
atcatcgcg gcaccaagg gctctccatc ctcaccacg acgtgcagag ccagctcaac  
300  
atgggcccgt tcggggaggc gggggacagc ctggtggagc tgggcgacct ggtggtgtcg  
360  
ctgaccgagt gctcgcccca cgcggcctat ctggccgctg tggccacgcc gggcgcccag  
420  
cccgcgcagc cgggcctggt ggaccgctac cgcgtgacgc gatgccgcca cgaggtggag  
480  
cagggttgcg ccgtgctgcg cgccacgccg ctggccgaca tgacgccgca gctgctgctg  
540  
gaggtgtcgc agggcctgtc gcgcaacctc aagttcctga cggacgcgtg cgccctggcc  
600  
agtgacaagt cacgggaccg cttttcgcgg gagcagttca agctgggcgt caagtgcag  
660  
agcaccagcg cgtcggcgct gctggcctgc gtgcgcgagg tgaagggtggc gccagtgag  
720  
ctggcgcgca gccgtgtgc gctcttcagc gggcccctgg tgcaggcagt gagcgccctg  
780  
gtaggcttcg ccaccgagcc gcagttcctg ggtcgcgcgg cagctgtgag cgccgagggc  
840  
aaggcggtgc agaccgccat cctgggcggc gccatgagcg tgggtgcggc ctgctgtctc  
900  
ctgaccaggt gcctcaggga tctggcgag caccgccgag ggggcgcaa gatgtcggac  
960  
cacagggaga ggctgaggaa ctcggcctgc gccgtgtctg aaggctgcac cctgctatct  
1020  
caggctttta gggagaggtc ttcgcccagg actttaccgc cagtgaattc caattctgtg  
1080  
aattagcacc ccacccccat accccttctt ccacccccag actaaaggaa gatacttact  
1140  
ctctgcccct ctccatttat accaaagaaa tcataggtga aacccccctac cctccccaac  
1200  
gttaaagtct cgagaggaat cttccacaag gcagggccat gcacgcaacc tgcacacgca  
1260  
cttgaggggc ccaggtgtct ctccaccagc ccccatgcag tagggactgg aagatatgtc  
1320  
atctgctggt tgtgttatca ctccacccc ctacccagc ccgtcttccg gaatttctca  
1380  
actaaatttc attattgggc aggaaggagg tcatgggttc atttcatttt tgtttttgt  
1440  
gtttttaatt aaaagaaagg ttacctcagt ttctactcct tagacatgga tgtagctacc  
1500

tttttttgta tgtctttttt ttttttaagc aatcgtgttg aattaggagt atacttggtg  
 1560  
 tggaaagagt atgaatttgc catgtgattt gcaaattgggg ggaagctact gtgagcgtgt  
 1620  
 gtttttttaa tttacactat agagtgattt ttttttcccc caacgtcaag tttttacctt  
 1680  
 gcatgtactg gagtatttat ttcattctatt aaaatgttat gtttctcaaa aaaaaaaaaa  
 1740  
 aaaaaaagtt ttgccctgtc gacc  
 1764

<210> 3834

<211> 361

<212> PRT

<213> Homo sapiens

<400> 3834

Ala	Ser	Gly	Ser	Ala	Gly	Lys	Pro	Thr	Gly	Glu	Ala	Ala	Ser	Pro	Ala
1				5					10					15	
Pro	Ala	Ser	Ala	Gly	Gly	Gly	Ala	Ser	Ser	Gln	Pro	Arg	Lys	Lys	Leu
			20					25					30		
Val	Ser	Val	Cys	Asp	His	Cys	Lys	Gly	Lys	Met	Gln	Leu	Val	Ala	Asp
			35				40					45			
Leu	Leu	Leu	Leu	Ser	Ser	Glu	Ala	Arg	Pro	Val	Leu	Phe	Glu	Gly	Pro
			50			55				60					
Ala	Ser	Ser	Gly	Ala	Gly	Ala	Glu	Ser	Phe	Glu	Gln	Gly	Arg	Asp	Thr
65				70					75					80	
Ile	Ile	Ala	Arg	Thr	Lys	Gly	Leu	Ser	Ile	Leu	Thr	His	Asp	Val	Gln
			85					90					95		
Ser	Gln	Leu	Asn	Met	Gly	Arg	Phe	Gly	Glu	Ala	Gly	Asp	Ser	Leu	Val
			100					105					110		
Glu	Leu	Gly	Asp	Leu	Val	Val	Ser	Leu	Thr	Glu	Cys	Ser	Ala	His	Ala
			115				120					125			
Ala	Tyr	Leu	Ala	Ala	Val	Ala	Thr	Pro	Gly	Ala	Gln	Pro	Ala	Gln	Pro
			130				135					140			
Gly	Leu	Val	Asp	Arg	Tyr	Arg	Val	Thr	Arg	Cys	Arg	His	Glu	Val	Glu
145				150					155					160	
Gln	Gly	Cys	Ala	Val	Leu	Arg	Ala	Thr	Pro	Leu	Ala	Asp	Met	Thr	Pro
			165					170					175		
Gln	Leu	Leu	Leu	Glu	Val	Ser	Gln	Gly	Leu	Ser	Arg	Asn	Leu	Lys	Phe
			180				185					190			
Leu	Thr	Asp	Ala	Cys	Ala	Leu	Ala	Ser	Asp	Lys	Ser	Arg	Asp	Arg	Phe
			195				200					205			
Ser	Arg	Glu	Gln	Phe	Lys	Leu	Gly	Val	Lys	Cys	Met	Ser	Thr	Ser	Ala
			210				215					220			
Ser	Ala	Leu	Leu	Ala	Cys	Val	Arg	Glu	Val	Lys	Val	Ala	Pro	Ser	Glu
225				230					235					240	
Leu	Ala	Arg	Ser	Arg	Cys	Ala	Leu	Phe	Ser	Gly	Pro	Leu	Val	Gln	Ala
			245					250					255		
Val	Ser	Ala	Leu	Val	Gly	Phe	Ala	Thr	Glu	Pro	Gln	Phe	Leu	Gly	Arg
			260					265				270			
Ala	Ala	Ala	Val	Ser	Ala	Glu	Gly	Lys	Ala	Val	Gln	Thr	Ala	Ile	Leu
			275				280					285			
Gly	Gly	Ala	Met	Ser	Val	Val	Ser	Ala	Cys	Val	Leu	Leu	Thr	Gln	Cys

290		295		300
Leu Arg Asp Leu Ala Gln His Pro Asp Gly Gly Ala Lys Met Ser Asp				
305		310		315
His Arg Glu Arg Leu Arg Asn Ser Ala Cys Ala Val Ser Glu Gly Cys				320
	325		330	335
Thr Leu Leu Ser Gln Ala Leu Arg Glu Arg Ser Ser Pro Arg Thr Leu				
	340		345	350
Pro Pro Val Asn Ser Asn Ser Val Asn				
	355		360	

&lt;210&gt; 3835

&lt;211&gt; 2366

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3835

nacgcgttcg atatccgccc ggagctccgg cgcagctcct ccaccttgga gctcatgaga  
 60  
 gcaggcctgg tggtagagcag ggacggtgca ccggacggcg ggatcgagca aatgggtctg  
 120  
 gccatggagc acggagggtc ctacgctcgg gcggggggca gctctcgggg ctgctggtat  
 180  
 tacctgcgct acttcttctt cttegtctcc ctcaccaat tctcatcat cctggggctc  
 240  
 gtgctcttca tggcttatgg caacgtgcac gtgagcacag agtccaacct gcaggccacc  
 300  
 gagegccgag ccgagggcct atacagtcag ctccataggc tcacggcctc ccagtccaac  
 360  
 ttgaccaagg agctcaactt caccacccgc gccaaggatg ccatcatgca gatgtggctg  
 420  
 aatgctcgcc gcgacctgga ccgcatcaat gccagcttcc gccagtgcc aaggtagccg  
 480  
 gtcattctaca cgaacaatca gaggtacatg gctgccatca tcttgagtga gaagcaatgc  
 540  
 agagatcaat tcaaggacat gaacaagagc tgcgatgcct tgctcttcat gctgaatcag  
 600  
 aaggtagaaga cgctggagggt ggagatagcc aaggagaaga ccatttgac taaggataag  
 660  
 gaaagcgtgc tgctgaacaa acgcgtggcg gaggaacagc tgggtgaatg cgtgaaaacc  
 720  
 cgggagctgc agcaccaaga gcgccagctg gccaaggagc aactgcaaaa ggtgcaagcc  
 780  
 ctctgcctgc ccctggacaa ggacaagttt gagatggacc ttcgtaacct gtggagggac  
 840  
 tccattatcc cagcagcct ggacaacctg gggtacaacc tctaccatcc cctgggctcg  
 900  
 gaattggcct ccatccgag agcctgcgac cacatgccca gcctcatgag ctccaagggtg  
 960  
 gaggagctgg cccggagcct ccggggcgat atcgaacgcg tggcccgca gaactcagac  
 1020  
 ctccaacgcc agaagctgga agcccagcag ggctgcggg ccagtcagga ggcgaaacag  
 1080  
 aaggtaggaga aggaggctca ggcccgggag gccaagctcc aagctgaatg ctcccggcag  
 1140

acccagctag cgctggagga gaaggcgggtg ctgcggaagg aacgagacaa cctggccaag  
 1200  
 gagctggaag agaagaagag ggaggcggag cagctcagga tggagctggc catcagaaac  
 1260  
 tcagccctgg acacctgcat caagaccaag tcgcagccga tgatgccagt gtcaaggccc  
 1320  
 atggggcctg tccccaaccc ccagcccatc gaccagcta gcctggagga gttcaagagg  
 1380  
 aagatcctgg agtcccagag gccccctgca ggcacccctg tagcccatc cagtggctga  
 1440  
 ggaggctcca ggctgagga ccaagggatg gcccgactcg gcggtttgcg gaggatgcag  
 1500  
 ggatatgtc acagcgcccg acacaacccc ctcccgccgc cccaaccac ccagggccac  
 1560  
 catcagacaa ctccctgcat gcaaaccct agtaccctct cacaccgca ccgcgcctc  
 1620  
 acgatccctc acccagagca cagggccgcg gagatgacgt caccaagca acggcgctga  
 1680  
 cgtcacatat caccgtggtg atggcgtcac gtggccatgt agacgtcacg aagagatata  
 1740  
 gcgatggcgt cgtgcagatg cagcacgtcg cacacagaca tggggaactt ggcacgacgt  
 1800  
 cacaccgaga tgcagcaacg acgtcacggg ccatgtcgac gtcacacata ttaatgtcac  
 1860  
 acagacgcg cgatggcatc acacagacgg tgatgatgtc acacacagac acagtgacaa  
 1920  
 cacacacat gacaacgaca cctatagata tggcaccaac atcacatgca cgcacccct  
 1980  
 ttcacacaca ctttctaccc aattctcacc tagtgtcacg tcccccgac cctggcacac  
 2040  
 gggccaaggt acccacagga tcccatcccc tccgcacag ccctggggccc cagcacctcc  
 2100  
 cctcctccag cttcctggcc tcccagccac ttcctcaccc ccagtgcctg gacccggagg  
 2160  
 tgagaacagg aagccattca cctccgtcc ttgagcgtga gtgtttccag gacccctcg  
 2220  
 gggccctgag ccgggggtga gggtcacctg ttgtcgggag gggagccact ccttctcccc  
 2280  
 caactcccag ccctgcctgt ggcccggtga aatgttggtg gcacttaata aatattagta  
 2340  
 aatccttaaa aaaaaaaaaa aaaaaa  
 2366

&lt;210&gt; 3836

&lt;211&gt; 479

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3836

Xaa	Ala	Phe	Asp	Ile	Arg	Pro	Glu	Leu	Arg	Arg	Ser	Ser	Ser	Thr	Leu
1				5					10					15	
Glu	Leu	Met	Arg	Ala	Gly	Leu	Val	Val	Ser	Arg	Asp	Gly	Ala	Pro	Asp
		20						25					30		
Gly	Gly	Ile	Glu	Gln	Met	Gly	Leu	Ala	Met	Glu	His	Gly	Gly	Ser	Tyr

```

      35      40      45
Ala Arg Ala Gly Gly Ser Ser Arg Gly Cys Trp Tyr Tyr Leu Arg Tyr
  50      55      60
Phe Phe Leu Phe Val Ser Leu Ile Gln Phe Leu Ile Ile Leu Gly Leu
  65      70      75      80
Val Leu Phe Met Val Tyr Gly Asn Val His Val Ser Thr Glu Ser Asn
      85      90      95
Leu Gln Ala Thr Glu Arg Arg Ala Glu Gly Leu Tyr Ser Gln Leu Leu
      100      105      110
Gly Leu Thr Ala Ser Gln Ser Asn Leu Thr Lys Glu Leu Asn Phe Thr
      115      120      125
Thr Arg Ala Lys Asp Ala Ile Met Gln Met Trp Leu Asn Ala Arg Arg
      130      135      140
Asp Leu Asp Arg Ile Asn Ala Ser Phe Arg Gln Cys Gln Gly Asp Arg
      145      150      155      160
Val Ile Tyr Thr Asn Asn Gln Arg Tyr Met Ala Ala Ile Ile Leu Ser
      165      170      175
Glu Lys Gln Cys Arg Asp Gln Phe Lys Asp Met Asn Lys Ser Cys Asp
      180      185      190
Ala Leu Leu Phe Met Leu Asn Gln Lys Val Lys Thr Leu Glu Val Glu
      195      200      205
Ile Ala Lys Glu Lys Thr Ile Cys Thr Lys Asp Lys Glu Ser Val Leu
      210      215      220
Leu Asn Lys Arg Val Ala Glu Glu Gln Leu Val Glu Cys Val Lys Thr
      225      230      235      240
Arg Glu Leu Gln His Gln Glu Arg Gln Leu Ala Lys Glu Gln Leu Gln
      245      250      255
Lys Val Gln Ala Leu Cys Leu Pro Leu Asp Lys Asp Lys Phe Glu Met
      260      265      270
Asp Leu Arg Asn Leu Trp Arg Asp Ser Ile Ile Pro Arg Ser Leu Asp
      275      280      285
Asn Leu Gly Tyr Asn Leu Tyr His Pro Leu Gly Ser Glu Leu Ala Ser
      290      295      300
Ile Arg Arg Ala Cys Asp His Met Pro Ser Leu Met Ser Ser Lys Val
      305      310      315      320
Glu Glu Leu Ala Arg Ser Leu Arg Ala Asp Ile Glu Arg Val Ala Arg
      325      330      335
Glu Asn Ser Asp Leu Gln Arg Gln Lys Leu Glu Ala Gln Gln Gly Leu
      340      345      350
Arg Ala Ser Gln Glu Ala Lys Gln Lys Val Glu Lys Glu Ala Gln Ala
      355      360      365
Arg Glu Ala Lys Leu Gln Ala Glu Cys Ser Arg Gln Thr Gln Leu Ala
      370      375      380
Leu Glu Glu Lys Ala Val Leu Arg Lys Glu Arg Asp Asn Leu Ala Lys
      385      390      395      400
Glu Leu Glu Glu Lys Lys Arg Glu Ala Glu Gln Leu Arg Met Glu Leu
      405      410      415
Ala Ile Arg Asn Ser Ala Leu Asp Thr Cys Ile Lys Thr Lys Ser Gln
      420      425      430
Pro Met Met Pro Val Ser Arg Pro Met Gly Pro Val Pro Asn Pro Gln
      435      440      445
Pro Ile Asp Pro Ala Ser Leu Glu Glu Phe Lys Arg Lys Ile Leu Glu
      450      455      460
Ser Gln Arg Pro Pro Ala Gly Ile Pro Val Ala Pro Ser Ser Gly

```

465

470

475

&lt;210&gt; 3837

&lt;211&gt; 2084

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3837

nagaggaggc ttttctctgg tgcttggcag atgcatgaag agactgatgg catgtggact  
60  
attcagaaaa ctgtggcaca ctgttgggtg caaggtagacc ttatgagatg ggctgacagt  
120  
ggggactgcc aactcatgtg tctgttttagc tcaccttttc ctgtgcccac cctccaaccc  
180  
cccaaccatg tgggaaggaa atgtttggcc ctctgaccct aactacatcc cacagactgg  
240  
gatggaaagg tgtctgagat taagaagaag atcaagtcga tcctgcctgg aaggctcctgt  
300  
gatctactgc aagacaccag ccacctgcct cccgagcact cggatgtggt gatcgtggga  
360  
ggtgggggtgc ttggcttgtc tgtggcctat tggctgaaga agctggagag cagacgaggt  
420  
gctattcgag tgctagtggg ggaacgggac cacacgtatt cacaggcctc caccgggctc  
480  
tcagtaggtg ggatttgtca gcagttctca ttgcctgaga acatccagct ctccctcttt  
540  
tcagccagct ttctacggaa catcaatgag tacctggccg tagtcgatgc tcctccctgt  
600  
gacctccggt tcaacccctc gggctacctc ttgctggctt cagaaaagga tgctgcagcc  
660  
atggagagca acgtgaaagt gcagaggcag gagggagcca aagtttctct gatgtctcct  
720  
gatcagcttc ggaacaagtt tccctggata aacacagagg gagtggcttt ggcgtcttat  
780  
gggatggagg acgaagggtg gtttgacccc tgggtgtctgc tccaggggct tcggcgaaag  
840  
gtccagtcct tgggagtcct tttctgccag ggagaggtga cacgttttgt ctcttcatct  
900  
caacgcatgt tgaccacaga tgacaaagcg gtggtcttga aaaggatcca tgaagtccat  
960  
gtgaagatgg accgcagcct ggagtaccag cctgtggaat gcgccattgt gatcaacgca  
1020  
gccggagcct ggtctgcgca aatcgagca ctggctgggtg ttggagaggg gccgcctggc  
1080  
accctgcagg gcaccaagct acctgtggag ccgaggaaaa ggtatgtgta tgtgtggcac  
1140  
tgccccaggg gaccaggcct agagactccg cttgttgagc acaccagtgg agcctatctt  
1200  
cgccgggaag gattaggtag caactaccta ggtggtcgta gccccactga gcaggaagaa  
1260  
ccggacccgg cgaacctgga agtggaccat gatttcttcc aggacaaggt gtggccccat  
1320  
ttggccctga gggccccagc ttttgagact ctgaagtgtt ttgtgcaccc gcaggttcag  
1380

agcgctggg cgggtatta cgactacaac acctttgacc agaatggcgt ggtgggcccc  
 1440  
 caccgctag ttgtcaacat gtactttgct actggcttca gtggtcacgg gctccagcag  
 1500  
 gcccctggca ttgggcgagc tgtagcagag atggtactga agggcagggt ccagaccatc  
 1560  
 gacctgagcc ccttcctctt taccgcttt tacttgggag agaagatcca ggagaacaac  
 1620  
 atcatctgag catgtgtgct ctgcactggc tccactggct tgcactctgg ctgtgttcac  
 1680  
 agccttgttt gctgcttcca tcttccccag tactgtgcca ggcttctcc ccctccccag  
 1740  
 tgtcctctcc tctcaggcag gccattgcac ccatatggct gggcaggcac aggcagtgag  
 1800  
 gccgaggcca atagcgagtg atgagcggga tcctaggact gatctgtagc ccatgctgat  
 1860  
 gtcacccacc agggcaatcc atctggaggc ctgagcacc tggcccagga ctggcttcat  
 1920  
 cctggcactg accaggaaaag actgcctctg acctcttag cagacagagc ccaggcatgg  
 1980  
 gagcactctg gggcagcctg gctcagggtt attgattttc gtctgtttac cctatccatt  
 2040  
 aatcaatata tgtaattaac tccttcaaaa aaaaaaaaaa aaaa  
 2084

&lt;210&gt; 3838

&lt;211&gt; 468

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3838

Leu	His	Pro	Thr	Asp	Trp	Asp	Gly	Lys	Val	Ser	Glu	Ile	Lys	Lys	Lys
1				5					10					15	
Ile	Lys	Ser	Ile	Leu	Pro	Gly	Arg	Ser	Cys	Asp	Leu	Leu	Gln	Asp	Thr
		20					25						30		
Ser	His	Leu	Pro	Pro	Glu	His	Ser	Asp	Val	Val	Ile	Val	Gly	Gly	Gly
		35					40					45			
Val	Leu	Gly	Leu	Ser	Val	Ala	Tyr	Trp	Leu	Lys	Lys	Leu	Glu	Ser	Arg
	50					55					60				
Arg	Gly	Ala	Ile	Arg	Val	Leu	Val	Val	Glu	Arg	Asp	His	Thr	Tyr	Ser
65					70					75				80	
Gln	Ala	Ser	Thr	Gly	Leu	Ser	Val	Gly	Gly	Ile	Cys	Gln	Gln	Phe	Ser
				85					90					95	
Leu	Pro	Glu	Asn	Ile	Gln	Leu	Ser	Leu	Phe	Ser	Ala	Ser	Phe	Leu	Arg
		100					105						110		
Asn	Ile	Asn	Glu	Tyr	Leu	Ala	Val	Val	Asp	Ala	Pro	Pro	Leu	Asp	Leu
		115					120					125			
Arg	Phe	Asn	Pro	Ser	Gly	Tyr	Leu	Leu	Leu	Ala	Ser	Glu	Lys	Asp	Ala
	130					135						140			
Ala	Ala	Met	Glu	Ser	Asn	Val	Lys	Val	Gln	Arg	Gln	Glu	Gly	Ala	Lys
145					150					155				160	
Val	Ser	Leu	Met	Ser	Pro	Asp	Gln	Leu	Arg	Asn	Lys	Phe	Pro	Trp	Ile
				165					170					175	
Asn	Thr	Glu	Gly	Val	Ala	Leu	Ala	Ser	Tyr	Gly	Met	Glu	Asp	Glu	Gly



180 185 190  
 Trp Phe Asp Pro Trp Cys Leu Leu Gln Gly Leu Arg Arg Lys Val Gln  
 195 200 205  
 Ser Leu Gly Val Leu Phe Cys Gln Gly Glu Val Thr Arg Phe Val Ser  
 210 215 220  
 Ser Ser Gln Arg Met Leu Thr Thr Asp Asp Lys Ala Val Val Leu Lys  
 225 230 235 240  
 Arg Ile His Glu Val His Val Lys Met Asp Arg Ser Leu Glu Tyr Gln  
 245 250 255  
 Pro Val Glu Cys Ala Ile Val Ile Asn Ala Ala Gly Ala Trp Ser Ala  
 260 265 270  
 Gln Ile Ala Ala Leu Ala Gly Val Gly Glu Gly Pro Pro Gly Thr Leu  
 275 280 285  
 Gln Gly Thr Lys Leu Pro Val Glu Pro Arg Lys Arg Tyr Val Tyr Val  
 290 295 300  
 Trp His Cys Pro Gln Gly Pro Gly Leu Glu Thr Pro Leu Val Ala Asp  
 305 310 315 320  
 Thr Ser Gly Ala Tyr Phe Arg Arg Glu Gly Leu Gly Ser Asn Tyr Leu  
 325 330 335  
 Gly Gly Arg Ser Pro Thr Glu Gln Glu Glu Pro Asp Pro Ala Asn Leu  
 340 345 350  
 Glu Val Asp His Asp Phe Phe Gln Asp Lys Val Trp Pro His Leu Ala  
 355 360 365  
 Leu Arg Val Pro Ala Phe Glu Thr Leu Lys Cys Phe Val His Pro Gln  
 370 375 380  
 Val Gln Ser Ala Trp Ala Gly Tyr Tyr Asp Tyr Asn Thr Phe Asp Gln  
 385 390 395 400  
 Asn Gly Val Val Gly Pro His Pro Leu Val Val Asn Met Tyr Phe Ala  
 405 410 415  
 Thr Gly Phe Ser Gly His Gly Leu Gln Gln Ala Pro Gly Ile Gly Arg  
 420 425 430  
 Ala Val Ala Glu Met Val Leu Lys Gly Arg Phe Gln Thr Ile Asp Leu  
 435 440 445  
 Ser Pro Phe Leu Phe Thr Arg Phe Tyr Leu Gly Glu Lys Ile Gln Glu  
 450 455 460  
 Asn Asn Ile Ile  
 465

&lt;210&gt; 3839

&lt;211&gt; 758

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3839

nnacgcgtgc aggactctct ggaagtcacc cttcccagca aacaagagga ggaggatgag  
60

gaggaggagg agggaggagaa agaccagcct gccgagatgg agtaccttaa ctctcgctgt  
120

gtccttttca cttattttcca gggagacatt gggtcagtag tggatgaaca cttctcaaga  
180

gcttttgggcc aagccatcac cctccatcca gaatctgcc tttcaaaaag caagatgggg  
240

ctaaccccc tatggcgaga cagctcagct ctctcaagcc agcggaatag tttcccaact  
300

tccttttggga ccagctctta ccagccccc cctgcacctt gtttggggg agttcatcct  
 360  
 gacttccagg tcaactggacc ccttggcacc ttttctgcag ctgatccag tccttggcgg  
 420  
 ggacacaacc tgcatacagac tggcccagcc cctccccctg ctgtgtctga gtcttggcct  
 480  
 tatectttga catctcaggt gageccatcc tacagccata tgcatacagc gtacatgcgg  
 540  
 caccaccacc ctcatgccc catgcaccac cgccaccgcc accatcatca ccatcaccac  
 600  
 cctcctgctg gctctgccct ggatccatcc tatgggcctc tgctgatgcc ttcagtgcac  
 660  
 gcggccagga ttcttgcctc ccagtgtgac atcacaaaga cagaaccaac tacagtcacc  
 720  
 tctgtacct cagcatgggc tggagccttt catggaac  
 758

&lt;210&gt; 3840

&lt;211&gt; 252

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3840

Xaa Arg Val Gln Asp Ser Leu Glu Val Thr Leu Pro Ser Lys Gln Glu  
 1 5 10 15  
 Glu Glu Asp Glu Glu Glu Glu Glu Glu Lys Asp Gln Pro Ala Glu  
 20 25 30  
 Met Glu Tyr Leu Asn Ser Arg Cys Val Leu Phe Thr Tyr Phe Gln Gly  
 35 40 45  
 Asp Ile Gly Ser Val Val Asp Glu His Phe Ser Arg Ala Leu Gly Gln  
 50 55 60  
 Ala Ile Thr Leu His Pro Glu Ser Ala Ile Ser Lys Ser Lys Met Gly  
 65 70 75 80  
 Leu Thr Pro Leu Trp Arg Asp Ser Ser Ala Leu Ser Ser Gln Arg Asn  
 85 90 95  
 Ser Phe Pro Thr Ser Phe Trp Thr Ser Ser Tyr Gln Pro Pro Pro Ala  
 100 105 110  
 Pro Cys Leu Gly Gly Val His Pro Asp Phe Gln Val Thr Gly Pro Pro  
 115 120 125  
 Gly Thr Phe Ser Ala Ala Asp Pro Ser Pro Trp Pro Gly His Asn Leu  
 130 135 140  
 His Gln Thr Gly Pro Ala Pro Pro Pro Ala Val Ser Glu Ser Trp Pro  
 145 150 155 160  
 Tyr Pro Leu Thr Ser Gln Val Ser Pro Ser Tyr Ser His Met His Asp  
 165 170 175  
 Val Tyr Met Arg His His His Pro His Ala His Met His His Arg His  
 180 185 190  
 Arg His His His His His His His Pro Pro Ala Gly Ser Ala Leu Asp  
 195 200 205  
 Pro Ser Tyr Gly Pro Leu Leu Met Pro Ser Val His Ala Ala Arg Ile  
 210 215 220  
 Pro Ala Pro Gln Cys Asp Ile Thr Lys Thr Glu Pro Thr Thr Val Thr  
 225 230 235 240  
 Ser Ala Thr Ser Ala Trp Ala Gly Ala Phe His Gly

245

250

<210> 3841  
 <211> 367  
 <212> DNA  
 <213> Homo sapiens

<400> 3841  
 ctgggaactc cccacacttc cgtgggcaac atcttggggg cattgatcgc tggctactgg  
 60  
 gtgtccacat gctggggcct gtctttcgtc gtgcctggag ccatcgtggc agccatgggg  
 120  
 atagtgtgct ttctcttcct cattgaacat ccgaacgacg tcaggtgctc ctccaccctg  
 180  
 gtgacgcact caaaaggcta tgagaatggt acaaacaggt tgagcctccc gaagccaatc  
 240  
 ttgaagagcg aaaagaacaa gcctctggac ccagagatgc agtgccctgct gctctcagat  
 300  
 gggaagggtc ccatccaccc gaaccacgtc gtcattctcc ccggggacgg tgggagtggc  
 360  
 ccggccg  
 367

<210> 3842  
 <211> 122  
 <212> PRT  
 <213> Homo sapiens

<400> 3842  
 Leu Gly Thr Pro His Thr Ser Val Gly Asn Ile Leu Gly Ser Leu Ile  
 1 5 10 15  
 Ala Gly Tyr Trp Val Ser Thr Cys Trp Gly Leu Ser Phe Val Val Pro  
 20 25 30  
 Gly Ala Ile Val Ala Ala Met Gly Ile Val Cys Phe Leu Phe Leu Ile  
 35 40 45  
 Glu His Pro Asn Asp Val Arg Cys Ser Ser Thr Leu Val Thr His Ser  
 50 55 60  
 Lys Gly Tyr Glu Asn Gly Thr Asn Arg Leu Ser Leu Pro Lys Pro Ile  
 65 70 75 80  
 Leu Lys Ser Glu Lys Asn Lys Pro Leu Asp Pro Glu Met Gln Cys Leu  
 85 90 95  
 Leu Leu Ser Asp Gly Lys Gly Ser Ile His Pro Asn His Val Val Ile  
 100 105 110  
 Leu Pro Gly Asp Gly Gly Ser Gly Pro Ala  
 115 120

<210> 3843  
 <211> 712  
 <212> DNA  
 <213> Homo sapiens

<400> 3843  
 ngctgtccgg cccgcagggc ggtcgaggtg ggaacggagc agccccgggg gcccccttga  
 60

ggcgggcgagg ccgcgaaggg cgcggggctg gaggcccgcg gcgccatggc tcacgtcggc  
 120  
 tcccgcgaagc gctcgaggag tcgcagccgg tcccggggac gggggtcgga aaagagaaa  
 180  
 aagaagagca ggaaagacac ctcgaggaac tgctcggcct ccacatccca aggtcgcaag  
 240  
 gccagcacgg cccctggggc ggaggcctca ctttctccct gcatcacaga gagaagcaag  
 300  
 cagaaggccc ggaggagaac aagatccagc tctctctcct cttcttccag ttcttctagc  
 360  
 tcctcttctt cctctctgct ctcctcctct tcctccagtg atggccggaa gaagcggggg  
 420  
 aagtacaagg acaagaggag gaagaagaag aagaagagga agaagctgaa gaagaagggc  
 480  
 aaggagaagg cggaagcaca gcaggcagag catcatccgc aaggtggtgg accctgagac  
 540  
 ggggcgccacc aggcttatta agggagatgg cgaggctcta gaggaaatcg taaccaaaga  
 600  
 acgacacaga gagatcaaca agcaagccac ccgagggggac tgcttggcct tccagatgcg  
 660  
 agctggggtg cttcttgagg gccccgctgg caaggctgtg gacgacgctg gc  
 712

&lt;210&gt; 3844

&lt;211&gt; 143

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3844

Met	Ala	His	Val	Gly	Ser	Arg	Lys	Arg	Ser	Arg	Ser	Arg	Ser	Arg	Ser
1				5				10					15		
Arg	Gly	Arg	Gly	Ser	Glu	Lys	Arg	Lys	Lys	Lys	Ser	Arg	Lys	Asp	Thr
			20					25					30		
Ser	Arg	Asn	Cys	Ser	Ala	Ser	Thr	Ser	Gln	Gly	Arg	Lys	Ala	Ser	Thr
		35					40					45			
Ala	Pro	Gly	Ala	Glu	Ala	Ser	Pro	Ser	Pro	Cys	Ile	Thr	Glu	Arg	Ser
	50					55				60					
Lys	Gln	Lys	Ala	Arg	Arg	Arg	Thr	Arg	Ser	Ser	Ser	Ser	Ser	Ser	Ser
65					70					75				80	
Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser
				85					90					95	
Ser	Ser	Asp	Gly	Arg	Lys	Lys	Arg	Gly	Lys	Tyr	Lys	Asp	Lys	Arg	Arg
		100						105					110		
Lys	Lys	Lys	Lys	Lys	Arg	Lys	Lys	Leu	Lys	Lys	Lys	Gly	Lys	Glu	Lys
		115					120					125			
Ala	Glu	Ala	Gln	Gln	Ala	Glu	His	His	Pro	Gln	Gly	Gly	Gly	Pro	
	130					135						140			

&lt;210&gt; 3845

&lt;211&gt; 2302

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3845

nacgcgtggt tctgctgggc cttggttttg gctacttgga tccgctggtc cccacagacc  
60  
agccccgcag tacctgctgt gccccggctc aagcggggtg gagaacacgg agctcgtcaa  
120  
gtcaccacgt gactacctga tgatgctgat gccaccacgc caggaggagg agaaagacaa  
180  
gcctgtggcc cccagcaacg tcctgtcgat ggcccagctg cgcacgctgc ccctggccga  
240  
tcagatcaag atcctgatga agaattgtgaa ggtcatgcct ttgccaact tgatgagcct  
300  
cctgggcccc tccatcgatt ccgtggctgt tctgcggggc atccagaagg tggcgatgtt  
360  
ggtccaaggg aactgggtgg tgaagagtga catcctatac cccaaggact cgtccagccc  
420  
tcacagcggc gtgcctgctg aggtgctctg caggggccga gacttcgtta tgtggaagtt  
480  
cacgcagagc cgctgggtgg ttaggaaaga ggtggcaacc gtgaccaaac tctgcgccga  
540  
ggatgtgaag gacttcctgg agcacatggc cgtggtgagg atcaacaaag gctgggagtt  
600  
cattctgcct tatgatgggg agttcatcaa gaagcaccgc gatgtggtcc agcggcagca  
660  
catgctgtgg acgggtatcc aggccaaact ggaaaaagtc tataatcttg taaaggaaac  
720  
catgccaaag aagccggatg cacaatcagg gcctgccggg ctggtctgtg gggaccagcg  
780  
gatccaagta gccaaaacca aggccagca gaaccacgcg ttgctggagc gggagctgca  
840  
gcgccggaag gagcagctgc ggggtgcctgc ggtcccggcc ggtgtgcgga tcaaggagga  
900  
gcccgtagc gaggagggcg aggaggacga ggagcaggag gcggaggagg agcccatgga  
960  
cacttcccc agcggcctcc acagcaagct ggccaacggg ctgcctctcg ggcgggctgc  
1020  
gggcacagac agcttcaacg ggcaccgcc ccagggtgc gccagcacc ctgtggctcg  
1080  
ggaactgaag gccttcgtgg aggccacctt tcagagacag ttgtgtctca cgctgagcga  
1140  
actcaagcgc ctcttcaatc tgcacttggc cagcctgccc ccggccaca cactcttcag  
1200  
cgcatctcg gaccgatgc tacaggacac ggtgctggcc gccggttga agcagatact  
1260  
ggtgcctttt cccccccaga ctgctgcttc ccggatgag cagaaggtgt ttgcctctg  
1320  
ggagtctgga gacatgagt atcagcatcg acaggttttg cttgaaattt ttccaaaaa  
1380  
ttaccgggta cgccgaaaca tgatccagtc tcggttgact caagagtgtg gagaagatct  
1440  
cagtaaacag gaggtggata aagtactaaa ggactgctgt gtaagctatg gtggcatgtg  
1500  
gtaccttaaa gggacagtac agtcttgaca atagtagcaa actactaacc cagcaaactc  
1560  
aagcccaagg aagaagggcg gaaccagaag tagggcctcg acttgcttca gacgacacag  
1620

agcaagagga actgaccatc tcatgacctg tggcattgca cgggtgcagtg gacagaaggg  
 1680  
 attatcctca gccagtcgca gggtcagctt aagttagtta gatcactccc agaagagacc  
 1740  
 agctgggacc ttctttgcag tacaatttga aattcctgat gtattttgct tattatttgg  
 1800  
 ttctattctc ataataaaga gagtgtatac ttacatgggc aggatgataa aaatcatggt  
 1860  
 ttaatatattt cttttgtaaa cttaatgccca acaagggtcta agttatgttt acaacatgaa  
 1920  
 gaaaacctca aagttcttaa tttttaaaat gcctagaaga caatatttag tcttggatta  
 1980  
 tctatctgct aagacctcca ccaatttcat taaaccaa tgaattattc tattcttggg  
 2040  
 attctgtggc cacttcacct ttgacaacaa cctactttat gtagcagtct caactgttta  
 2100  
 catgaaccat agcaaaaaaa tcagaatcaa atccatctcc ttttaatggt tgcagaaaga  
 2160  
 tgcaaacaaa accaggttaag tatggaacaa tgtgtaagtg aggttatcac actttgatgt  
 2220  
 aaaaatttct attttgtgta tttttaaaat aaatgcaaac actaaactaa aaaaaaaaaa  
 2280  
 aaaaaaaaaa aaaaaaaaaa aa  
 2302

<210> 3846

<211> 197

<212> PRT

<213> Homo sapiens

<400> 3846

Ser	Cys	Lys	Gly	Asn	His	Ala	Lys	Glu	Ala	Gly	Cys	Thr	Ile	Arg	Ala
1				5				10						15	
Cys	Arg	Ala	Gly	Leu	Trp	Gly	Pro	Ala	Asp	Pro	Ser	Ser	Gln	Asn	Gln
		20					25						30		
Gly	Pro	Ala	Glu	Pro	Arg	Val	Ala	Gly	Ala	Gly	Ala	Ala	Ala	Ala	Glu
		35				40					45				
Gly	Ala	Ala	Ala	Gly	Ala	Cys	Gly	Pro	Ala	Arg	Cys	Ala	Asp	Gln	Gly
	50				55					60					
Gly	Ala	Arg	Glu	Arg	Gly	Gly	Arg	Gly	Gly	Arg	Gly	Ala	Gly	Gly	Gly
65				70				75						80	
Gly	Gly	Ala	His	Gly	His	Phe	Pro	Gln	Arg	Pro	Pro	Gln	Gln	Ala	Gly
			85					90						95	
Gln	Arg	Ala	Ala	Ser	Arg	Ala	Gly	Cys	Gly	His	Arg	Gln	Leu	Gln	Arg
		100					105						110		
Ala	Pro	Ala	Pro	Gly	Leu	Arg	Gln	His	Pro	Cys	Gly	Ser	Gly	Thr	Glu
		115				120					125				
Gly	Leu	Arg	Gly	Gly	His	Leu	Ser	Glu	Thr	Val	Cys	Ala	His	Ala	Glu
	130				135						140				
Arg	Thr	Gln	Ala	Pro	Leu	Gln	Ser	Ala	Leu	Gly	Gln	Pro	Ala	Pro	Arg
145				150						155				160	
Pro	His	Thr	Leu	Gln	Arg	His	Leu	Gly	Pro	His	Ala	Thr	Gly	His	Gly
			165					170					175		
Ala	Gly	Arg	Arg	Leu	Gln	Ala	Asp	Thr	Gly	Ala	Phe	Ser	Pro	Pro	Asp

180  
Cys Cys Phe Pro Gly  
195

185

190

<210> 3847  
<211> 1570  
<212> DNA  
<213> Homo sapiens

<400> 3847  
nnccatgggtg ggcttgaggg tggggctgtc ctagagcatt aaacagctgt tgggccctgg  
60  
gctgaccccc ccaccctgca tgtgtggggg tccccacagc tcttatgttc ctcttgggac  
120  
ttctggaatt cctcctcctt aggcaagcct atcacagcat cctgaccctg ggggcctctg  
180  
tgcagctggg gtttggtttt gaggtaaaac tggcttggga ggttgagagg acaagcccga  
240  
ggtgacccca catgtgcctt gaataaccca acagaccctt cctcagcacc tgctatgtgg  
300  
ccaacctgtg ctggccacca aggggcagtg atcagatatg gctcctgccc tccacacgct  
360  
cactcctagg tgactgggga gacgcacaaa gaggctagga cagaggagga gcccacact  
420  
ggggctcagg agagggttcc tggaggctcg tgccggagct agctggtaat ggacaggaga  
480  
ggattagtgc catggacaac tggaggcgtg tccctggcag agagagaatg tgttcagtga  
540  
cgacagctca tatttgttga gtgcgaattt cacaccaggc cctatgctga gctcctgacc  
600  
tgcattctctt attcagcaag acaatactgt tataaaggaa cagttaatta tgtcatttta  
660  
tagataagta aactgaggtt cactgagttg ccaaaagtca cagctagtaa gtggaggggg  
720  
taggaggacc ctgggtgtgt ctagagcctg tgattgtacc actgcacctg ctgtgcagag  
780  
gccttgggga gcaatgtggg tgcagcaagg gggagctatg tgtttacatc cccctcgtcc  
840  
ccctctccct tcagtatgcc atcctgatga cgatggtgct caccatcttc atcaagtatg  
900  
tgctgcactc cgtggacctc cagagtgaga acccctggga caacaaggct gtgtacatgc  
960  
tctacacaga gctgtttaca ggtgagaggg gcctgggcct ctctgatct ggaccagcat  
1020  
cctccactct gectcctggc cctgtgacct gctgctttct gcatccctc cctcaggt  
1080  
tcataaagg tctgctgtac atggccttca tgaccatcat gatcaagggt cacaccttcc  
1140  
cactctttgc catccggccc atgtacctgg ccatgaggtg agcccgccc tgtccccga  
1200  
tcctcctgac ctgatccctg ccttctcctt gctttcactg actgtccttt cagacagttc  
1260  
aagaaagctg tgacagatgc catcatgtct cgccgagcca tccgcaacat gaacacctg  
1320

tatccagatg ccacccaga ggagctccag gcaatggaca atgtctgcat catctgccga  
 1380  
 gaagagatgg tgactggtgc caagagactg ccctgcaacc acattttcca taccaggtgg  
 1440  
 gaggggccct ggggagcctg ccagcagggg ccagggcccc agaaggcagg ccctaagggg  
 1500  
 cctgctgacc tctgcctggc cttgaccgc agctgcctgc gctcctgggt ccagcggcag  
 1560  
 cagacctgcc  
 1570

<210> 3848

<211> 120

<212> PRT

<213> Homo sapiens

<400> 3848

Pro	Asp	Pro	Val	Pro	Ser	Pro	Ala	Phe	Thr	Asp	Cys	Pro	Phe	Arg	Gln
1				5					10					15	
Phe	Lys	Lys	Ala	Val	Thr	Asp	Ala	Ile	Met	Ser	Arg	Arg	Ala	Ile	Arg
			20					25					30		
Asn	Met	Asn	Thr	Leu	Tyr	Pro	Asp	Ala	Thr	Pro	Glu	Glu	Leu	Gln	Ala
		35					40					45			
Met	Asp	Asn	Val	Cys	Ile	Ile	Cys	Arg	Glu	Glu	Met	Val	Thr	Gly	Ala
	50				55						60				
Lys	Arg	Leu	Pro	Cys	Asn	His	Ile	Phe	His	Thr	Arg	Trp	Glu	Gly	Pro
65					70					75				80	
Trp	Gly	Ala	Cys	Pro	Ala	Gly	Pro	Arg	Pro	Gln	Lys	Ala	Gly	Pro	Lys
			85					90					95		
Gly	Pro	Ala	Asp	Leu	Cys	Leu	Ala	Leu	Thr	Arg	Ser	Cys	Leu	Arg	Ser
			100					105					110		
Trp	Phe	Gln	Arg	Gln	Gln	Thr	Cys								
			115				120								

<210> 3849

<211> 1139

<212> DNA

<213> Homo sapiens

<400> 3849

cctgccgagg gccaggaatg agattaagga cggaacgcat gccctccaaa aagtggcatt  
 60  
 ttagaattta tacagcacc cagcacgctg ctaaactgtg gcacacaacc accacggccc  
 120  
 gatcacgcgc agcgggaacc cgggtctctga gtccgccccg tgcgttgct catcagagtc  
 180  
 acgccaccta atccattctc tcgggtcttcg tctgctccgg tattgcaact gcctcgattg  
 240  
 gtcgatcctg ggccagcatg gcggcgccca tgtaaccggt tccgtgcccgc aaagcgaacg  
 300  
 gcggcccgcg cgcgggcccc gcgggggtta gaggtcacca tgctgagggt cgcgtggagg  
 360  
 acgctgagtt tgattcggac ccgggcagtt acccaggtcc tagtaccggt gctgccgggc  
 420



ggtgggagcg ccaagtttcc tttcaaccag tggggcctgc agcctcgaag tctcctctc  
 480  
 cagggccgcgc gcgatatgt cgtccggaaa ccagcccagt ctaggctgga tgatgacca  
 540  
 cctccttcta cgctgctcaa agactaccag aatgtccctg gaattgagaa ggttgatgat  
 600  
 gtcgtgaaaa gactcttgct tttggaaatg gccacaaga aggagatgct aaaaatcaag  
 660  
 caagaacagt ttatgaagaa gattgttgca aaccagagg acaccagatc cctggaggct  
 720  
 cgaattattg ccttgtctgt caagatccgc agttatgaag aacacttgga gaaacatcga  
 780  
 aaggacaaag cccacaaacg ctatctgcta atgagcattg accagaggaa aaagatgctc  
 840  
 aaaaacctcc gtaacaccaa ctatgatgtc ttgagaaga tatgctgggg gctgggaatt  
 900  
 gagtacacct tccccctct gtattaccga agagcccacc gccgattcgt gaccaagaag  
 960  
 gctctgtgca ttcgggtttt ccaggagact caaaagctga agaagcgaag aagagcctta  
 1020  
 aaggctgcag cagcagccca aaaacaagca aagcggagga acccagacag cctgcca  
 1080  
 gccataccaa agacactcaa agacagccaa taaattctgt tcaatcattt aaaaaaaaa  
 1139

<210> 3850

<211> 257

<212> PRT

<213> Homo sapiens

<400> 3850

Met	Leu	Arg	Val	Ala	Trp	Arg	Thr	Leu	Ser	Leu	Ile	Arg	Thr	Arg	Ala
1				5					10					15	
Val	Thr	Gln	Val	Leu	Val	Pro	Gly	Leu	Pro	Gly	Gly	Gly	Ser	Ala	Lys
			20					25					30		
Phe	Pro	Phe	Asn	Gln	Trp	Gly	Leu	Gln	Pro	Arg	Ser	Leu	Leu	Leu	Gln
		35				40					45				
Ala	Ala	Arg	Gly	Tyr	Val	Val	Arg	Lys	Pro	Ala	Gln	Ser	Arg	Leu	Asp
		50				55					60				
Asp	Asp	Pro	Pro	Pro	Ser	Thr	Leu	Leu	Lys	Asp	Tyr	Gln	Asn	Val	Pro
65					70					75				80	
Gly	Ile	Glu	Lys	Val	Asp	Asp	Val	Val	Lys	Arg	Leu	Leu	Ser	Leu	Glu
			85						90					95	
Met	Ala	Asn	Lys	Lys	Glu	Met	Leu	Lys	Ile	Lys	Gln	Glu	Gln	Phe	Met
		100						105					110		
Lys	Lys	Ile	Val	Ala	Asn	Pro	Glu	Asp	Thr	Arg	Ser	Leu	Glu	Ala	Arg
		115					120					125			
Ile	Ile	Ala	Leu	Ser	Val	Lys	Ile	Arg	Ser	Tyr	Glu	Glu	His	Leu	Glu
		130				135					140				
Lys	His	Arg	Lys	Asp	Lys	Ala	His	Lys	Arg	Tyr	Leu	Leu	Met	Ser	Ile
145					150					155				160	
Asp	Gln	Arg	Lys	Lys	Met	Leu	Lys	Asn	Leu	Arg	Asn	Thr	Asn	Tyr	Asp
			165					170						175	
Val	Phe	Glu	Lys	Ile	Cys	Trp	Gly	Leu	Gly	Ile	Glu	Tyr	Thr	Phe	Pro

	180		185		190										
Pro	Leu	Tyr	Tyr	Arg	Arg	Ala	His	Arg	Arg	Phe	Val	Thr	Lys	Lys	Ala
	195					200							205		
Leu	Cys	Ile	Arg	Val	Phe	Gln	Glu	Thr	Gln	Lys	Leu	Lys	Lys	Arg	Arg
	210					215							220		
Arg	Ala	Leu	Lys	Ala	Ala	Ala	Ala	Gln	Lys	Gln	Ala	Lys	Arg	Arg	
225				230					235					240	
Asn	Pro	Asp	Ser	Pro	Ala	Lys	Ala	Ile	Pro	Lys	Thr	Leu	Lys	Asp	Ser
				245				250						255	
Gln															

&lt;210&gt; 3851

&lt;211&gt; 1183

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3851

```

nnacgcgttt tggcctgagt tggggagggg ggcggggagg gacctgcggc ttgcggcccc
60
gcccccttct cgggctcgca gccgaccggt aagcccgctt cctcccacgg ccggccctgg
120
ggcgtgtcc gccgggcaac tccagccgag gcctgggctt ctgcctgcag gtgtctgcgg
180
cgaggccctt aggttacagc ccgatttggc cccatggtgg gtttcggggc caaccggcgg
240
gctggccgcc tgccctctct cgtgctggtg gtgctgctgg tggatgctgt cgtcctcgcc
300
ttcaactact ggagcatctc ctcccgccac gtctgtcttc aggaggaggt ggccgagctg
360
cagggccagg tccagcgac cgaagtggcc cgcggggcggc tggaaaagcg caattcggac
420
ctcttgctgt tgggtggacac gcacaagaaa cagatcgacc agaaggaggc cgactacggc
480
cgctcagca gccggctgca ggccagagag ggcctcggga agagatgcga ggatgacaag
540
gttaactac agaacaacat atcgatcag atggcagaca tacatcattt aaaggagcaa
600
cttgctgagc ttcgtcagga atttcttcga caagaagacc agcttcagga ctataggaag
660
aacaatactt accttgtaa gaggttagaa tatgaaagtt ttcagtgtgg acagcagatg
720
aaggaattga gagcacagca tgaagaaaat attaaaaagt tagcagacca gtttttagag
780
gaacaaaagc aagagaccca aaagattcaa tcaaatgatg gaaaggaatt ggatataaac
840
aatcaagtag tacctaaaaa tattccaaa gtagctgaga atgttgaga taagaatgaa
900
gaacctcaa gcaatcatat tccacatggg aaagaacaaa tcaaaagagg tggatgatga
960
gggatgcctg gaatagaaga gaatgacct gcaaaagttg atgatcttcc cctgcttta
1020
aggaagcctc ctatttcagt ttctcaacat gaaagtcac aagcaatctc ccattctcca
1080

```

actggacaac ctctctcccc aaatatgcct ccagattcac acataaacca caatggaaac  
 1140  
 cccggactctt caaaacagaa tccttcacgt ccccttcacg cgt  
 1183

<210> 3852

<211> 323

<212> PRT

<213> Homo sapiens

<400> 3852

Met	Val	Gly	Phe	Gly	Ala	Asn	Arg	Arg	Ala	Gly	Arg	Leu	Pro	Ser	Leu
1			5						10					15	
Val	Leu	Val	Val	Leu	Leu	Val	Val	Ile	Val	Val	Leu	Ala	Phe	Asn	Tyr
			20					25					30		
Trp	Ser	Ile	Ser	Ser	Arg	His	Val	Leu	Leu	Gln	Glu	Glu	Val	Ala	Glu
		35				40						45			
Leu	Gln	Gly	Gln	Val	Gln	Arg	Thr	Glu	Val	Ala	Arg	Gly	Arg	Leu	Glu
	50				55					60					
Lys	Arg	Asn	Ser	Asp	Leu	Leu	Leu	Val	Asp	Thr	His	Lys	Lys	Gln	
65					70				75					80	
Ile	Asp	Gln	Lys	Glu	Ala	Asp	Tyr	Gly	Arg	Leu	Ser	Ser	Arg	Leu	Gln
				85				90						95	
Ala	Arg	Glu	Gly	Leu	Gly	Lys	Arg	Cys	Glu	Asp	Asp	Lys	Val	Lys	Leu
			100					105					110		
Gln	Asn	Asn	Ile	Ser	Tyr	Gln	Met	Ala	Asp	Ile	His	His	Leu	Lys	Glu
	115					120						125			
Gln	Leu	Ala	Glu	Leu	Arg	Gln	Glu	Phe	Leu	Arg	Gln	Glu	Asp	Gln	Leu
	130					135					140				
Gln	Asp	Tyr	Arg	Lys	Asn	Asn	Thr	Tyr	Leu	Val	Lys	Arg	Leu	Glu	Tyr
145					150					155				160	
Glu	Ser	Phe	Gln	Cys	Gly	Gln	Gln	Met	Lys	Glu	Leu	Arg	Ala	Gln	His
				165				170						175	
Glu	Glu	Asn	Ile	Lys	Lys	Leu	Ala	Asp	Gln	Phe	Leu	Glu	Glu	Gln	Lys
		180						185				190			
Gln	Glu	Thr	Gln	Lys	Ile	Gln	Ser	Asn	Asp	Gly	Lys	Glu	Leu	Asp	Ile
	195					200						205			
Asn	Asn	Gln	Val	Val	Pro	Lys	Asn	Ile	Pro	Lys	Val	Ala	Glu	Asn	Val
	210					215					220				
Ala	Asp	Lys	Asn	Glu	Glu	Pro	Ser	Ser	Asn	His	Ile	Pro	His	Gly	Lys
225				230						235				240	
Glu	Gln	Ile	Lys	Arg	Gly	Gly	Asp	Ala	Gly	Met	Pro	Gly	Ile	Glu	Glu
				245				250						255	
Asn	Asp	Leu	Ala	Lys	Val	Asp	Asp	Leu	Pro	Pro	Ala	Leu	Arg	Lys	Pro
		260						265				270			
Pro	Ile	Ser	Val	Ser	Gln	His	Glu	Ser	His	Gln	Ala	Ile	Ser	His	Leu
	275					280						285			
Pro	Thr	Gly	Gln	Pro	Leu	Ser	Pro	Asn	Met	Pro	Pro	Asp	Ser	His	Ile
	290					295				300					
Asn	His	Asn	Gly	Asn	Pro	Gly	Thr	Ser	Lys	Gln	Asn	Pro	Ser	Ser	Pro
305					310					315					320
Leu	His	Ala													

<210> 3853  
 <211> 375  
 <212> DNA  
 <213> Homo sapiens

<400> 3853  
 cgtacgcata tggccgatga aaataaaaat gaatatgctg cacaattaca aaactttaat  
 60  
 ggagaacaac ataaacattt ttatgtagtg attcctcaga tttacaagca actacaagaa  
 120  
 atggacgaac gaaggactat taaactcagt gagtgttaca gaggatttgc tgactcagaa  
 180  
 cgcaaagtta ttcccatcat ttcaaaatgt ttggaaggaa tgattcttgc agcaaaatca  
 240  
 gttgatgaaa gaagagactc tcaaatggtg gtagactcct tcaaatctgg ttttgaacct  
 300  
 ccaggagact ttccatttga agattacagt caacatatat atagaacctat ttctgatggg  
 360  
 actatcagtg catcc  
 375

<210> 3854  
 <211> 125  
 <212> PRT  
 <213> Homo sapiens

<400> 3854  
 Arg Thr His Met Ala Asp Glu Asn Lys Asn Glu Tyr Ala Ala Gln Leu  
 1 5 10 15  
 Gln Asn Phe Asn Gly Glu Gln His Lys His Phe Tyr Val Val Ile Pro  
 20 25 30  
 Gln Ile Tyr Lys Gln Leu Gln Glu Met Asp Glu Arg Arg Thr Ile Lys  
 35 40 45  
 Leu Ser Glu Cys Tyr Arg Gly Phe Ala Asp Ser Glu Arg Lys Val Ile  
 50 55 60  
 Pro Ile Ile Ser Lys Cys Leu Glu Gly Met Ile Leu Ala Ala Lys Ser  
 65 70 75 80  
 Val Asp Glu Arg Arg Asp Ser Gln Met Val Val Asp Ser Phe Lys Ser  
 85 90 95  
 Gly Phe Glu Pro Pro Gly Asp Phe Pro Phe Glu Asp Tyr Ser Gln His  
 100 105 110  
 Ile Tyr Arg Thr Ile Ser Asp Gly Thr Ile Ser Ala Ser  
 115 120 125

<210> 3855  
 <211> 1377  
 <212> DNA  
 <213> Homo sapiens

<400> 3855  
 naagctgcga ccatggcaac ctacaaccag ctctcctatg cccagaaggc caagtaccac  
 60  
 ctgtgctcag caggctggct ggagaccggg cgggttgctt accccacagc cttcgctcc  
 120

cagaactgtg gctctggtgt ggttgggata gtggactatg gacctagacc caacaagagt  
 180  
 gaaatgtggg atgtcttctg ctatcggatg aaagatgtga actgcacctg caaggtgggg  
 240  
 tatgtgggag atggcttctc atgcagtggg aacctgctgc aggtcctgat gtccttcccc  
 300  
 tcactcacia acttcttgac ggaagtgtg gcctattcca acagctcagc tcgaggccgt  
 360  
 gcatttctag aacacctgac tgacctgtcc atccgcggca ccctctttgt gccacagaac  
 420  
 agtgggctgg gggagaatga gacctgtct gggcgggaca tcgagcacca cctcgccaat  
 480  
 gtcagcatgt ttttctacaa tgacctgtc aatggcacn accctgcaaa cgagggtggg  
 540  
 aagcaagctg ctcatcactg ccagccagga cccactnncc aaccgacgga gaccaggttt  
 600  
 gttgatggaa gagccattct gcagtgggac atctttgcct ccaatgggat cattcatgtc  
 660  
 atttccaggc ctttaaaagc acccctgcc cccgtgacct tgacccacac tggcttggga  
 720  
 gcagggatct tctttgcat catcctggtg actggggctg ttgccttggc tgcttactcc  
 780  
 tactttcgga taaaccggag aacaatcggc ttccagcatt ttgagtcgga agaggacatt  
 840  
 aatgttgag ctcttgcaa gcagcagcct gagaatatct cgaaccctt gtatgagagc  
 900  
 acaacctcag ctccccaga accttcctac gacccttca cggactctga agaacggcag  
 960  
 cttgagggca atgaccctt gaggacactg tgagggcctg gacgggagat gccagccatc  
 1020  
 actcactgcc acctgggcca tcaactgtga attctcagca ccagttgcct tttaggaacg  
 1080  
 taaagtcctt taagcactca gaagccatac ctcatctctc tggctgatct gggggttgtt  
 1140  
 tctgtgggtg agagatgtgt tgctgtgccc acccagtaca gcttctctct ctgacctttt  
 1200  
 ggctcttctt cctttgtact cttcagctgg cacctgtctc attctgcctt acatgatggg  
 1260  
 taactgtgat ctttcttccc tgtagattg taagcctcgc tctttgtatc ccagccccta  
 1320  
 gcccagtgcc tgacacagga actgtgcaca ataaaggttt atggaacaga aacaaaa  
 1377

&lt;210&gt; 3856

&lt;211&gt; 330

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3856

Xaa	Ala	Ala	Thr	Met	Ala	Thr	Tyr	Asn	Gln	Leu	Ser	Tyr	Ala	Gln	Lys
1			5					10						15	
Ala	Lys	Tyr	His	Leu	Cys	Ser	Ala	Gly	Trp	Leu	Glu	Thr	Gly	Arg	Val
			20					25					30		
Ala	Tyr	Pro	Thr	Ala	Phe	Ala	Ser	Gln	Asn	Cys	Gly	Ser	Gly	Val	Val

```

      35      40      45
Gly Ile Val Asp Tyr Gly Pro Arg Pro Asn Lys Ser Glu Met Trp Asp
  50      55      60
Val Phe Cys Tyr Arg Met Lys Asp Val Asn Cys Thr Cys Lys Val Gly
65      70      75      80
Tyr Val Gly Asp Gly Phe Ser Cys Ser Gly Asn Leu Leu Gln Val Leu
      85      90      95
Met Ser Phe Pro Ser Leu Thr Asn Phe Leu Thr Glu Val Leu Ala Tyr
      100      105      110
Ser Asn Ser Ser Ala Arg Gly Arg Ala Phe Leu Glu His Leu Thr Asp
      115      120      125
Leu Ser Ile Arg Gly Thr Leu Phe Val Pro Gln Asn Ser Gly Leu Gly
      130      135      140
Glu Asn Glu Thr Leu Ser Gly Arg Asp Ile Glu His His Leu Ala Asn
145      150      155      160
Val Ser Met Phe Phe Tyr Asn Asp Leu Val Asn Gly Thr Xaa Pro Ala
      165      170      175
Asn Glu Gly Gly Lys Gln Ala Ala His His Cys Gln Pro Gly Pro Thr
      180      185      190
Xaa Gln Pro Thr Glu Thr Arg Phe Val Asp Gly Arg Ala Ile Leu Gln
      195      200      205
Trp Asp Ile Phe Ala Ser Asn Gly Ile Ile His Val Ile Ser Arg Pro
      210      215      220
Leu Lys Ala Pro Pro Ala Pro Val Thr Leu Thr His Thr Gly Leu Gly
225      230      235      240
Ala Gly Ile Phe Phe Ala Ile Ile Leu Val Thr Gly Ala Val Ala Leu
      245      250      255
Ala Ala Tyr Ser Tyr Phe Arg Ile Asn Arg Arg Thr Ile Gly Phe Gln
      260      265      270
His Phe Glu Ser Glu Glu Asp Ile Asn Val Ala Ala Leu Gly Lys Gln
      275      280      285
Gln Pro Glu Asn Ile Ser Asn Pro Leu Tyr Glu Ser Thr Thr Ser Ala
      290      295      300
Pro Pro Glu Pro Ser Tyr Asp Pro Phe Thr Asp Ser Glu Glu Arg Gln
305      310      315      320
Leu Glu Gly Asn Asp Pro Leu Arg Thr Leu
      325      330

```

&lt;210&gt; 3857

&lt;211&gt; 797

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3857

```

nngcgcgccca ccacgagaac agcntccggg ggcgggtcgt gggcgtgggc gacgagagcc
60
gcgccttgcc cgacgtcatg cagggcatgg tgctcagctc catgcagcac ttcagcgagg
120
ccttccacca ggtcctgggc gagaagcata agcgcggcca cctggccgag gccgagggcc
180
acagggacac ttgcgacgaa gactcgggtg ccggcgagtc ggaccgcata gacgatggca
240
ctgttaatgg ccgcggctgc tccccgggag agtcggcctc ggggggctg tccaaaaagc
300

```

tgetgctggg cagccccagc tcgetgagcc ccttctctaa gcgcatcaag ctcgagaagg  
 360  
 agttcgacct gcccccgcc gcgatgcca acacggagaa cgtgtactcg cagtggctcg  
 420  
 ccggctacgc ggctccagg cagctcaaag atcccttcct tagcttcgga gactccagac  
 480  
 aatcgctttt tgctctctcg tcggagcact cctcggagaa cgggagcttg cgcttctcca  
 540  
 caccgcccgg ggagctggac ggagggatct cggggcgag cggcacggga agtggaggga  
 600  
 gcacgccccca tattagtggc cggggcccgg gcaggcccag ctcaaaagag ggcagacgca  
 660  
 gcgacacttg ttcttcacac acccccattc ggcgtagtac ccagagagct caagatgtgt  
 720  
 ggcagttttc ggatggaagc tcgagagccc ttaagttctg agaaaatttg aagccccggg  
 780  
 ggggtggggtg gacgcgt  
 797

&lt;210&gt; 3858

&lt;211&gt; 76

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3858

Xaa	Arg	Ala	Thr	Thr	Arg	Thr	Ala	Ser	Gly	Ala	Arg	Ser	Trp	Ala	Trp
1			5					10					15		
Ala	Thr	Arg	Ala	Ala	Pro	Cys	Pro	Thr	Ser	Cys	Arg	Ala	Trp	Cys	Ser
		20						25					30		
Ala	Pro	Cys	Ser	Thr	Ser	Ala	Arg	Pro	Ser	Thr	Arg	Ser	Trp	Ala	Arg
		35					40					45			
Ser	Ile	Ser	Ala	Ala	Thr	Trp	Pro	Arg	Pro	Arg	Ala	Thr	Gly	Thr	Leu
	50					55					60				
Ala	Thr	Lys	Thr	Arg	Trp	Pro	Ala	Ser	Arg	Thr	Ala				
65					70						75				

&lt;210&gt; 3859

&lt;211&gt; 1449

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3859

tacaagaata aaaagcaagt ggggaagtat ttctggcctc ggattacaaä gggtcacttc  
 60  
 aaggagactc aatttgaact cagagtactg ggaaaagatt gtaacgaaac ctcattcttt  
 120  
 tttgaagctc ggagtaaaac tgcttgcaag cacctctgga agtgcagtgt ggaacatcat  
 180  
 acatttttta gaatgccaga aaatgaatcc aattcactgt caagaaaact cagcaagttt  
 240  
 ggatccatac gttataagca ccgctacagt ggcaggacag ctttgcaaä gagccgagat  
 300  
 ctttctattc agcttccccg gcctgatcag aatgtgacaa gaagtcgaag caagacttac  
 360

cctaagcgaa tagcacaaac acagccagct gaatcaaaca ccatcagtag gataactgca  
 420  
 aacatggaaa atggagaaaa tgaaggaaca attaaaatta ttgcaccttc accagtaaaa  
 480  
 agctttaaga aagcaaagaa tgaaaatagc cctgataccc aaagaagcaa atctcatgca  
 540  
 ccgtgggaag aaaatggccc ccagagtgga ctctacaatt ctcccagtga tcgcactaag  
 600  
 tcgccaaagt tcccttacac gcgtcgccga aacccctcct gtggaagtga caatgattct  
 660  
 gtacagcctg tgaggaggag gaaagcccat aacagtgggtg aagattcaga tcttaagcaa  
 720  
 aggaggaggt cacgttcacg ctgtaacacc agcagtggta gtgaatcaga aaatttctaat  
 780  
 agagaacacc ggaaaaagag aaacagaata cggcaggaga atgatatggt tgattcagcg  
 840  
 cctcagtggg aagctgtatt aaggagacaa aaggaaaaaa accaagccga cccaacaac  
 900  
 aggcgatcca gacacagatc tcgttcgaga agccccgata tccaagcaaa agaagagtta  
 960  
 tggaagcaca ttcaaaaaga acttgtggat ccatccggat tgtccgaaga acaattaaaa  
 1020  
 gagattccat aactaaaaat agagtgagtg cctttcagaa tcttctcacc aaagctttat  
 1080  
 tagtgcttga cacaaggtga cccaatccgc atcaggcatt ctcatcgcg acgaagtta  
 1140  
 cgccagtatc gcaggtccca gtgttcagat ggggagcgat cagttctctc ggaagtgaat  
 1200  
 tcaaaaacag atcttgtacc accacttccg gtgaccatt ctteggatgc tcagggttct  
 1260  
 ggggatgcta cagttcatca gagaagaaat ggggtctaaag atagcctgat ggaagaaaaa  
 1320  
 cctcagacat ctacaaacaa cctggctgga aaacacacag caaaaacaat aaaaactata  
 1380  
 caagcttccc gcctcaagac agagacttga tcctgatgaa ggggtcaagg taggggtggg  
 1440  
 aaggttgtg  
 1449

&lt;210&gt; 3860

&lt;211&gt; 348

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3860

Tyr	Lys	Asn	Lys	Lys	Gln	Val	Gly	Lys	Tyr	Phe	Trp	Pro	Arg	Ile	Thr
1				5					10					15	
Lys	Val	His	Phe	Lys	Glu	Thr	Gln	Phe	Glu	Leu	Arg	Val	Leu	Gly	Lys
			20					25					30		
Asp	Cys	Asn	Glu	Thr	Ser	Phe	Phe	Phe	Glu	Ala	Arg	Ser	Lys	Thr	Ala
		35					40					45			
Cys	Lys	His	Leu	Trp	Lys	Cys	Ser	Val	Glu	His	His	Thr	Phe	Phe	Arg
	50					55					60				
Met	Pro	Glu	Asn	Glu	Ser	Asn	Ser	Leu	Ser	Arg	Lys	Leu	Ser	Lys	Phe



```

65          70          75          80
Gly Ser Ile Arg Tyr Lys His Arg Tyr Ser Gly Arg Thr Ala Leu Gln
      85          90          95
Met Ser Arg Asp Leu Ser Ile Gln Leu Pro Arg Pro Asp Gln Asn Val
      100          105          110
Thr Arg Ser Arg Ser Lys Thr Tyr Pro Lys Arg Ile Ala Gln Thr Gln
      115          120          125
Pro Ala Glu Ser Asn Thr Ile Ser Arg Ile Thr Ala Asn Met Glu Asn
      130          135          140
Gly Glu Asn Glu Gly Thr Ile Lys Ile Ile Ala Pro Ser Pro Val Lys
      145          150          155          160
Ser Phe Lys Lys Ala Lys Asn Glu Asn Ser Pro Asp Thr Gln Arg Ser
      165          170          175
Lys Ser His Ala Pro Trp Glu Glu Asn Gly Pro Gln Ser Gly Leu Tyr
      180          185          190
Asn Ser Pro Ser Asp Arg Thr Lys Ser Pro Lys Phe Pro Tyr Thr Arg
      195          200          205
Arg Arg Asn Pro Ser Cys Gly Ser Asp Asn Asp Ser Val Gln Pro Val
      210          215          220
Arg Arg Arg Lys Ala His Asn Ser Gly Glu Asp Ser Asp Leu Lys Gln
      225          230          235          240
Arg Arg Arg Ser Arg Ser Arg Cys Asn Thr Ser Ser Gly Ser Glu Ser
      245          250          255
Glu Asn Ser Asn Arg Glu His Arg Lys Lys Arg Asn Arg Ile Arg Gln
      260          265          270
Glu Asn Asp Met Val Asp Ser Ala Pro Gln Trp Glu Ala Val Leu Arg
      275          280          285
Arg Gln Lys Glu Lys Asn Gln Ala Asp Pro Asn Asn Arg Arg Ser Arg
      290          295          300
His Arg Ser Arg Ser Arg Ser Pro Asp Ile Gln Ala Lys Glu Glu Leu
      305          310          315          320
Trp Lys His Ile Gln Lys Glu Leu Val Asp Pro Ser Gly Leu Ser Glu
      325          330          335
Glu Gln Leu Lys Glu Ile Pro Tyr Thr Lys Ile Glu
      340          345

```

&lt;210&gt; 3861

&lt;211&gt; 748

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3861

```

nagattggag tccggccgcc ccccgacagc agccgcctcc tgccttcctc gctgctaggg
60
gccaccatgt cgggagacaa acttctgagc gaactcgggtt ataagctggg ccgcacaatt
120
ggagagggca gctactccaa ggtgaagggtg gccacatcca agaagtacaa gggtagcgtg
180
gccatcaagg tgggtggaccg gcggcgagcg ccccgaggact tcgtcaacaa gttcctgccg
240
cgagagctgt ccatcctgcg gggcgtgcga caccgcaca tcgtgcacgt cttcgagttc
300
atcgaggtgt gcaacgggaa actgtacatc gtgatggaag cggccgccac cgacctgctg
360

```

caagccgtgc agcgcaacgg gcgcatcccc ggagttcagg cgcgcgacct ctttgcgag  
 420  
 atcgccggcg cegtgcgcta cctgcacgat catcacctgg tgcaccgga cctcaagtgc  
 480  
 gaaaacgtgc tgctgagccc ggacgagcgc cgcgtcaagc tcaccgactt cggcttcggc  
 540  
 cgccaggccc atggctaccc agacctgagc accacctact gcggctcagc cgtacgcgtc  
 600  
 acccgagtca tgcatttctt gagcacctac tgtctgccag gcccagagc tcatggcgaa  
 660  
 gagacttggg cccatccctg ccgaaaacga gacaattgaa aagtcaagta aaataaaaga  
 720  
 atgacatgga aataaaaaaa aaaaaaaa  
 748

<210> 3862

<211> 210

<212> PRT

<213> Homo sapiens

<400> 3862

Met	Ser	Gly	Asp	Lys	Leu	Leu	Ser	Glu	Leu	Gly	Tyr	Lys	Leu	Gly	Arg
1				5					10					15	
Thr	Ile	Gly	Glu	Gly	Ser	Tyr	Ser	Lys	Val	Lys	Val	Ala	Thr	Ser	Lys
			20					25					30		
Lys	Tyr	Lys	Gly	Thr	Val	Ala	Ile	Lys	Val	Val	Asp	Arg	Arg	Arg	Ala
		35					40				45				
Pro	Pro	Asp	Phe	Val	Asn	Lys	Phe	Leu	Pro	Arg	Glu	Leu	Ser	Ile	Leu
		50				55					60				
Arg	Gly	Val	Arg	His	Pro	His	Ile	Val	His	Val	Phe	Glu	Phe	Ile	Glu
65					70				75					80	
Val	Cys	Asn	Gly	Lys	Leu	Tyr	Ile	Val	Met	Glu	Ala	Ala	Ala	Thr	Asp
				85					90					95	
Leu	Leu	Gln	Ala	Val	Gln	Arg	Asn	Gly	Arg	Ile	Pro	Gly	Val	Gln	Ala
			100					105					110		
Arg	Asp	Leu	Phe	Ala	Gln	Ile	Ala	Gly	Ala	Val	Arg	Tyr	Leu	His	Asp
		115					120					125			
His	His	Leu	Val	His	Arg	Asp	Leu	Lys	Cys	Glu	Asn	Val	Leu	Leu	Ser
		130				135					140				
Pro	Asp	Glu	Arg	Arg	Val	Lys	Leu	Thr	Asp	Phe	Gly	Phe	Gly	Arg	Gln
145					150				155					160	
Ala	His	Gly	Tyr	Pro	Asp	Leu	Ser	Thr	Thr	Tyr	Cys	Gly	Ser	Ala	Val
				165					170					175	
Arg	Val	Thr	Arg	Val	Met	His	Phe	Leu	Ser	Thr	Tyr	Cys	Leu	Pro	Gly
			180					185					190		
Pro	Arg	Ala	His	Gly	Glu	Glu	Thr	Trp	Ala	His	Pro	Cys	Arg	Lys	Arg
		195					200					205			
Asp	Asn														
		210													

<210> 3863

<211> 341

<212> DNA

<213> Homo sapiens

&lt;400&gt; 3863

acgcgtgaag ggggatccag atgctgataa cgaaggccca tcagcaggaa ctctcacag  
 60  
 ctcactttga ggcttctat tttctttaat cctgggggtac agctcccacc tggacacttc  
 120  
 agttttgctc tcagttggga ctctgggaaa aaaactgtgt ggctgatctc cacgaggttc  
 180  
 ttctggtcga ggctccccga gaaccatctg gccatgggct ggcagccgag ttctcgagt  
 240  
 gtccaggtg acggtacatt ccaggctagc catcctatca taatcgaatc tgagtagatt  
 300  
 tttatcaatc gcttgggaca agccattgaa ttttcggaga g  
 341

&lt;210&gt; 3864

&lt;211&gt; 108

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3864

Met	Ala	Cys	Pro	Lys	Arg	Leu	Ile	Lys	Ile	Tyr	Ser	Asp	Ser	Ile	Met
1				5				10					15		
Ile	Gly	Trp	Leu	Ala	Trp	Asn	Val	Pro	Ser	Ala	Trp	Thr	Leu	Arg	Glu
			20					25					30		
Leu	Gly	Cys	Gln	Pro	Met	Ala	Arg	Trp	Phe	Ser	Gly	Ser	Leu	Asp	Gln
		35				40					45				
Lys	Asn	Leu	Val	Glu	Ile	Ser	His	Thr	Val	Phe	Phe	Pro	Glu	Ser	Gln
	50					55				60					
Leu	Arg	Ala	Lys	Leu	Lys	Cys	Pro	Gly	Gly	Ser	Cys	Thr	Pro	Gly	Leu
65					70					75				80	
Lys	Lys	Ile	Gly	Ser	Leu	Lys	Val	Ser	Cys	Glu	Glu	Phe	Leu	Leu	Met
			85					90					95		
Gly	Leu	Arg	Tyr	Gln	His	Leu	Asp	Pro	Pro	Ser	Arg				
			100					105							

&lt;210&gt; 3865

&lt;211&gt; 492

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3865

nattgcaaaa caatatatga cacgtctttt accagccaca accttcaaca aaccaatatt  
 60  
 aatcaggaat tgacgataag cttactacat tttgaaatta tctgactttc ctcatgaaat  
 120  
 gagacctatg tgaagcccac ttaattttct gaaacttcac atcatgtacc ttcattgtaa  
 180  
 tattctgaca cttgtttcat gcagccatac cagtcacaac tttaaatttt tagtcagact  
 240  
 ttgctcaciaa ggtttcagga taattaatac aaatggtttg ggccagccat cacacagcag  
 300  
 tctcctatctt acttcactac aactacagct ttcattcttc attacattac tttttctgag  
 360

tagtctgggt caaatagtac aaactgaata ttccttaacc aaaatgcttg gaagtaggcc  
 420  
 gggagcagcg gctcaccct gtaatcccag cattttggga ggccaaagca gacagatcac  
 480  
 tcaaggtcag ca  
 492

<210> 3866

<211> 109

<212> PRT

<213> Homo sapiens

<400> 3866

Met	Tyr	Leu	His	Cys	Asn	Ile	Leu	Thr	Leu	Val	Ser	Cys	Ser	His	Thr
1				5					10					15	
Ser	His	Asn	Phe	Lys	Phe	Leu	Val	Arg	Leu	Cys	Ser	Gln	Gly	Phe	Arg
		20						25					30		
Ile	Ile	Asn	Thr	Asn	Gly	Leu	Gly	Gln	Pro	Ser	His	Ser	Ser	Leu	Leu
		35					40					45			
Phe	Thr	Ser	Leu	Gln	Leu	Gln	Leu	Ser	Phe	Phe	Ile	Thr	Leu	Leu	Phe
	50					55					60				
Leu	Ser	Ser	Leu	Gly	Gln	Ile	Val	Gln	Thr	Glu	Tyr	Ser	Leu	Thr	Lys
65					70					75				80	
Met	Leu	Gly	Ser	Arg	Pro	Gly	Ala	Ala	Ala	His	Pro	Cys	Asn	Pro	Ser
			85					90						95	
Ile	Leu	Gly	Gly	Gln	Ser	Arg	Gln	Ile	Thr	Gln	Gly	Gln			
			100					105							

<210> 3867

<211> 1032

<212> DNA

<213> Homo sapiens

<400> 3867

acgcgtgaag gggagctccg gaagaatctg gaggagctat tccaggtgaa gatggaacgg  
 60  
 gagcagcatc agactgagat cagggatctc caggaccagc tctcagaaat gcacgatgaa  
 120  
 ctggacagtg caaagcgatc ggaggacagg gagaaggagg ctctgattga ggagctctta  
 180  
 caggcaaaac aggatcttca agatctgctg attgccaaag aggagcaaga agacctcttg  
 240  
 agaaagcgag agcgtgaact caccgccctg aaggaggccc tgaaagaaga ggtttccagc  
 300  
 catgatcagg agatggacaa gctgaaggag caatatgatg ctgagttgca ggccctgagg  
 360  
 gagagtgtgg aagaagcaac caagaatgtc gaggtcttgg cgagcaggag caacacttca  
 420  
 gagcaagacc aggcggggac tgaaatgcgc gtgaagcttc tgcaggagga gaatgagaag  
 480  
 ctgcagggaa gaagcgaaga gctggagcgg agagttgctc agcttcaaag gcagatcgag  
 540  
 gacctgaaag gcgatgaagc caaggcgaag gaaacgctga agaagtaaga gggagaaata  
 600

cgacagttag aggaggccct tgtgcacgcc agaaaggaag aaaaagaagc tgtgtcagcc  
 660  
 agaagggccc tggagaatga actggaggct gctcaggga atctgagtca gactaccag  
 720  
 gagcagaagc agttgtctga gaagctcaaa gaggagagt agcagaagga gcagctaaga  
 780  
 aggttgaaga acgagatgga gaatgagcgg tggcacctgg gcaaaacat tgagaaactg  
 840  
 cagaaggaga tggcagacat tgttgaggcc tcccgtacct caaccctgga gctccagaac  
 900  
 cagctggatg agtataagga gaaaaaccgc agggagctcg cagaaatgca aagacagttg  
 960  
 aaggagaaaa cgctggaggc agaaaagtcc cgactgacag ccatgaaaat gcaggatgag  
 1020  
 atgcgtctga tg  
 1032

<210> 3868

<211> 344

<212> PRT

<213> Homo sapiens

<400> 3868

Thr	Arg	Glu	Gly	Glu	Leu	Arg	Lys	Asn	Leu	Glu	Glu	Leu	Phe	Gln	Val
1				5					10					15	
Lys	Met	Glu	Arg	Glu	Gln	His	Gln	Thr	Glu	Ile	Arg	Asp	Leu	Gln	Asp
			20					25					30		
Gln	Leu	Ser	Glu	Met	His	Asp	Glu	Leu	Asp	Ser	Ala	Lys	Arg	Ser	Glu
		35					40					45			
Asp	Arg	Glu	Lys	Gly	Ala	Leu	Ile	Glu	Glu	Leu	Leu	Gln	Ala	Lys	Gln
	50					55					60				
Asp	Leu	Gln	Asp	Leu	Leu	Ile	Ala	Lys	Glu	Glu	Gln	Glu	Asp	Leu	Leu
65				70					75					80	
Arg	Lys	Arg	Glu	Arg	Glu	Leu	Thr	Ala	Leu	Lys	Gly	Ala	Leu	Lys	Glu
			85					90						95	
Glu	Val	Ser	Ser	His	Asp	Gln	Glu	Met	Asp	Lys	Leu	Lys	Glu	Gln	Tyr
		100					105					110			
Asp	Ala	Glu	Leu	Gln	Ala	Leu	Arg	Glu	Ser	Val	Glu	Glu	Ala	Thr	Lys
		115					120					125			
Asn	Val	Glu	Val	Leu	Ala	Ser	Arg	Ser	Asn	Thr	Ser	Glu	Gln	Asp	Gln
	130					135						140			
Ala	Gly	Thr	Glu	Met	Arg	Val	Lys	Leu	Leu	Gln	Glu	Glu	Asn	Glu	Lys
145				150					155					160	
Leu	Gln	Gly	Arg	Ser	Glu	Glu	Leu	Glu	Arg	Arg	Val	Ala	Gln	Leu	Gln
			165					170						175	
Arg	Gln	Ile	Glu	Asp	Leu	Lys	Gly	Asp	Glu	Ala	Lys	Ala	Lys	Glu	Thr
		180					185						190		
Leu	Lys	Lys	Tyr	Glu	Gly	Glu	Ile	Arg	Gln	Leu	Glu	Glu	Ala	Leu	Val
		195					200						205		
His	Ala	Arg	Lys	Glu	Glu	Lys	Glu	Ala	Val	Ser	Ala	Arg	Arg	Ala	Leu
	210					215						220			
Glu	Asn	Glu	Leu	Glu	Ala	Gln	Gly	Asn	Leu	Ser	Gln	Thr	Thr	Gln	
225				230					235					240	
Glu	Gln	Lys	Gln	Leu	Ser	Glu	Lys	Leu	Lys	Glu	Glu	Ser	Glu	Gln	Lys

```

<400> 3869
tttttttttg ctttggttat tttttttgtc ttcttttctt tttttaagat caatattcat
60
tcttcatttg ccctcgtaac gaaaatagat ttttaaattgc ctcaaatata caaacatcat
120
tgatgcacac acattccaga aatgcagagg tatgctgctg ccacggggta ggggtgcggg
180
aggcggcctg gcctcatggc cgcagaccgt gcccagccc gggcctggca ggtagctggc
240
cactgataaa tgccactggg atcctaggag aagctgggga ccatgcgtga ggtactgaag
300
gggaccatgg tggatggcat cctgggcact ttgtagcttg tctgagggaaggcctctgc
360
tgccatagaa aagctggaca catgtcaccc tggggccctg acatcctaaa atgccccact
420
gactaccagt cactaggaga aaggtctccg gctatgcctt tcccagtgat gcttgcccca
480
gagtgcactg tcacaggtgg gggacaggtt tgctccagaa accgtaggcc tttcttgtct
540
ggccccctaa agaggacca agatcaggaa aactccccag tttaaaaaaa tatctgtcca
600
tctgtatata aaatacctat tattagctgg agttgcacac atgcaggacc aggagagact
660
gcctgaggtt ctgcctggac cgaaggaggc ctgcctcaca gcacctctgt gaggggactg
720
gtgctcctgg gaagtcactt ctcttggtga ccgagctgac accccctcca ctgggaaagc
780
acagggactg agcaggcggg acctgtgctg gagggagacc ctctgggtga ggaactatgc
840
gggccttctg ggcctcagca gctccagccc actcctggcc tggcaggcca cctgcccacc
900
cacccacca tctgcctctg gccccagtg aagtcagaag aggcaggagc cccgcaggct
960
gtgagcctgg cgcaggtcgg ctgacagcga gcttctcctc tgcttggtgg tagagcggac
1020

```

gctctcggca gcctgcacgg cccggctcag ggccttggtg agtcctctta ggtcgcccag  
 1080  
 gtcgagctgg atggagtgcc ggtgtctccg ggctggtggg ggagaggctg tgggcggcca  
 1140  
 cttggcagct ggttgggctg aggtaggtcc tgcaggcgca tagtacacag cggcaggtgg  
 1200  
 ataaggcatg atgggaaccg aggaga  
 1226

<210> 3870

<211> 100

<212> PRT

<213> Homo sapiens

<400> 3870

Met	Ala	Ala	Glu	Ala	Phe	Pro	Ser	Asp	Lys	Leu	Gln	Ser	Ala	Gln	Asp
1				5					10					15	
Ala	Ile	His	His	Gly	Pro	Leu	Gln	Tyr	Leu	Thr	His	Gly	Pro	Gln	Leu
			20					25					30		
Leu	Leu	Gly	Ser	Gln	Trp	His	Leu	Ser	Val	Ala	Ser	Tyr	Leu	Pro	Gly
		35					40					45			
Pro	Gly	Trp	Gly	Thr	Val	Cys	Gly	His	Glu	Ala	Arg	Pro	Pro	Pro	Ala
		50				55					60				
Pro	Leu	Pro	Arg	Gly	Ser	Ser	Ile	Pro	Leu	His	Phe	Trp	Asn	Val	Cys
65					70					75				80	
Ala	Ser	Met	Met	Phe	Val	Tyr	Leu	Arg	His	Leu	Lys	Ile	Tyr	Phe	Arg
				85					90					95	
Tyr	Glu	Gly	Lys												
				100											

<210> 3871

<211> 473

<212> DNA

<213> Homo sapiens

<400> 3871

nggatcctta.tggagtaact tctgtgggac atcctgcac ccttccaagc ttgggtgaga  
 60  
 tgcctcacat ttcccagtgc ttcctctgca cccctccatt ggagtaaaaa ccacagtttg  
 120  
 tgggatggtt gagttgacag ctctgaatcc cagaaacctt aattttggct tatcttttga  
 180  
 taggctgagg gaaaatacaa agatgatcct gttgatctcc gccttgatat tgaacgtcgt  
 240  
 aaaaaacata aggagagaga tcttaaaca ggtaaatcga gagaatcagt ggattcccga  
 300  
 gactccagtc actcaaggga aaggtcagct gaaaaaacag agaaaactca taaaggatca  
 360  
 aagaaacaga agaaagacct ctgagagccg agacaagctg ggagcgaaag gagattttcc  
 420  
 cacaggaaag tcttcctttt ccattactcg agaggcacag gtcaatgtcc gga  
 473

<210> 3872

<211> 66  
 <212> PRT  
 <213> Homo sapiens

<400> 3872  
 Ala Glu Gly Lys Tyr Lys Asp Asp Pro Val Asp Leu Arg Leu Asp Ile  
   1                  5                  10                  15  
 Glu Arg Arg Lys Lys His Lys Glu Arg Asp Leu Lys Arg Gly Lys Ser  
           20                  25                  30  
 Arg Glu Ser Val Asp Ser Arg Asp Ser Ser His Ser Arg Glu Arg Ser  
           35                  40                  45  
 Ala Glu Lys Thr Glu Lys Thr His Lys Gly Ser Lys Lys Gln Lys Lys  
   50                  55                  60  
 Asp Leu  
 65

<210> 3873  
 <211> 869  
 <212> DNA  
 <213> Homo sapiens

<400> 3873  
 gacattgctg cagaacggag cgtccaccga gatccagaac agactgaagg agatcccctc  
 60  
 aagtgtgcat taaactcaaa gattctgtct gtaatggaag cctatcacct gtccttcgag  
 120  
 aggaggcaga agtcgtccga ggccccctgtg cagtccccgc agcgctccgt ggaactccatc  
 180  
 agccaagagt cctccacttc cagcttctcc tccatgtcag ccggctcaag gcaggaggag  
 240  
 accaagaagg actacagaga ggtagaaaaa cttttgagag cagttgctga tggagatcta  
 300  
 gaaatgggtgc gttacctgtt ggaatggaca gaggaggacc tggaggatgc ggaggacact  
 360  
 gtcagtgcag cggaccccga attctgtcac ccgttggtgcc agtgcccca gtgtgcccca  
 420  
 gctcagaaga ggctggcgaa ggttctctgcc agtgggcttg gtgtgaacgt gaccagccag  
 480  
 gacggctcct ccccgctgca tgcgcgcgcc ctgcacggcc gggcggacct catccgcctc  
 540  
 ctgctgaagc acggggccaa cgcaggtgcc aggaacgcag accaagccgt cccgctccac  
 600  
 ctggcctgcc agcagggcca ctttcaggtg gtgaagtgtc tgtagattc gaatgcaaaa  
 660  
 cccaataaga aggacctcag tggaaacacg cccctcattt acgcctgctc cgggtggcct  
 720  
 cactgagcttg tggcactgct gctacagcac ggggcctcca ttaacgctct aacaataagg  
 780  
 ggcaacacag cgctgcacga ggctgtgatt gaaaagcacg tcttcgtggt agagctgctt  
 840  
 ctgctccacg gagcgtcagt taggtgctg  
 869

<210> 3874



&lt;211&gt; 289

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3874

```

Asp Ile Ala Ala Glu Arg Ser Val His Arg Asp Pro Glu Gln Thr Glu
 1           5           10           15
Gly Asp Pro Leu Lys Cys Ala Leu Asn Ser Lys Ile Leu Ser Val Met
      20           25           30
Glu Ala Tyr His Leu Ser Phe Glu Arg Arg Gln Lys Ser Ser Glu Ala
      35           40           45
Pro Val Gln Ser Pro Gln Arg Ser Val Asp Ser Ile Ser Gln Glu Ser
      50           55           60
Ser Thr Ser Ser Phe Ser Ser Met Ser Ala Gly Ser Arg Gln Glu Glu
65           70           75           80
Thr Lys Lys Asp Tyr Arg Glu Val Glu Lys Leu Leu Arg Ala Val Ala
      85           90           95
Asp Gly Asp Leu Glu Met Val Arg Tyr Leu Leu Glu Trp Thr Glu Glu
      100          105          110
Asp Leu Glu Asp Ala Glu Asp Thr Val Ser Ala Ala Asp Pro Glu Phe
      115          120          125
Cys His Pro Leu Cys Gln Cys Pro Lys Cys Ala Pro Ala Gln Lys Arg
      130          135          140
Leu Ala Lys Val Pro Ala Ser Gly Leu Gly Val Asn Val Thr Ser Gln
145          150          155          160
Asp Gly Ser Ser Pro Leu His Val Ala Ala Leu His Gly Arg Ala Asp
      165          170          175
Leu Ile Arg Leu Leu Leu Lys His Gly Ala Asn Ala Gly Ala Arg Asn
      180          185          190
Ala Asp Gln Ala Val Pro Leu His Leu Ala Cys Gln Gln Gly His Phe
      195          200          205
Gln Val Val Lys Cys Leu Leu Asp Ser Asn Ala Lys Pro Asn Lys Lys
      210          215          220
Asp Leu Ser Gly Asn Thr Pro Leu Ile Tyr Ala Cys Ser Gly Gly His
225          230          235          240Glu Leu
Val Ala Leu Leu Leu Gln His Gly Ala Ser Ile Asn Ala
      245          250          255
Leu Thr Ile Arg Gly Asn Thr Ala Leu His Glu Ala Val Ile Glu Lys
      260          265          270
His Val Phe Val Val Glu Leu Leu Leu His Gly Ala Ser Val Arg
      275          280          285
Cys

```

&lt;210&gt; 3875

&lt;211&gt; 2640

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3875

```

atggcggcgg cagttgtggt ggccggagggg gacagcgact cccggcccgg acaggagttg
60
ttagtggcct ggaacaccgt gagcaccggc ctggtgccgc cggctgcgct ggggctggtg
120

```

tcttccccga ccagcgggtgc agtcccccca aaggaagagg agctccgggc ggcgggtggag  
180  
gttctgaggg gccacgggct acactcggtc ctggaggagt ggttcgtgga ggtgctgcag  
240  
aacgatctgc aggccaaacat ctcccttgag ttctggaatg ccatctccca atgcgagaac  
300  
tctgcggatg agccccagtg ccttttgcta ctcttgacg cttttggcct gctggagagc  
360  
cgcttgatc cctacctgcg tagcctagag ctgctggaga aatggactcg cctgggcttg  
420  
ctgatgggca ctggtgctca ggggctgcga gaagaagtcc acactatggt gcgcggagtc  
480  
ttgttcttta gcacccccag aaccttccaa gagatgatcc agcgtctgta tgggtgcttc  
540  
ttgagagtct atatgcagag taagaggaag ggggaagggg gcacagacc ggaactggaa  
600  
ggggagctgg acagccggta tgcccgctgc cggtactacc ggctcctgca gagcccgctg  
660  
tgtgcagggt gcagcagtga caagcaacag tgctggtgtc gccaggctct ggagcagttc  
720  
catcagctca gccaggctct acacaggctc agtctgctgg agcgggtcag tgccagggt  
780  
gtgaccacca ccctgcacca ggtgacccgg gagaggatgg aggaccgttg cggggcgag  
840  
tacgagcgt ccttctgcg tgagttccac aggtggatcg agcgggtggt cggtcgctc  
900  
ggcaagggtg tcctgcagga cgccccgcc aggcccgcat ctcccgaggc cggcaacacc  
960  
ctgcgccgt ggcgctgcca cgtgcaaagg ttcttctacc gcatctacgc cagctcgcg  
1020  
atcgaggagc tcttcagcat cgtccgagac ttcccagact cccggccagc catcgaggac  
1080  
ctcaagtact gcctggagag gacggaccag aggcagcagc tgctcgtgtc cctcaaggct  
1140  
gccctggaga ctcggtcct gcatccaggc gtcaaacagt gtgacatcat caccctctat  
1200  
atctctgcca tcaaggcgt gcgctgctg gaccttcca tggatcatcct ggaggtggcc  
1260  
tgtgagccta tccgccgcta cctgaggacg cgggaggaca cagtgcggca gattgtggct  
1320  
gggctgacgg gggactcgga cgggacaggg gacctggctg ttgagctgtc caagaccgac  
1380  
ccggcgagcc tggagacagg ccaggacagt gaggatgact caggcgagcc agaggactgg  
1440  
gtcccgacc ctgtggatgc cgatccaggg aagtcgagct ccaagcgcg ttcacggac  
1500  
atcatcagcc tgctggtcag catctacggc agcaaggacc tcttcatcaa tgagtaccgc  
1560  
tcgctgctgg ccgaccgct gctgcaccag ttcagcttca gccccagcg ggagatccgc  
1620  
aacgtggagc tgctgaagct gcgctttggc gagggcccaa tgcacttctg tgaagtcag  
1680  
ctgaaggaca tggcggactc ccgccgcatc aatgccaaaca tccgggagga ggatgagaag  
1740

cggnnccagc agaggagcag ccaccgttcg gggctctacgc tgtcatcctg tccagtgagt  
 1800  
 tctggccgcc cttcaaggac gnagaagctg gaggtccccg aggatatcag ggcagccctg  
 1860  
 gaggcttact gcaagaagta tgagcagctc aaggccatgc ggaccctcag ttggaagcac  
 1920  
 accctgggcc tggtgacctat ggacgtggag ctggccgacc gcacgtctgc tgtggcggtc  
 1980  
 accccagtac aggcggtgat cttgctgtat tttcaggacc aagccagctg gaccctggag  
 2040  
 gaactgagca aggcggtgaa aatgcccgctg gcgctgctgc ggcggcggat gtccgtgtgg  
 2100  
 ctgcagcagg gtgtgctgctg tgagnngagc cccccggcac cttctctctgc attgaggagg  
 2160  
 agcggcctca ggaccgggna caacatgggtg ctcattgaca gtgacgacga gagcgactcc  
 2220  
 ggcattggcct cccaggccga ccagaaggag gaggagctgc tgctcttctg gacgtacatc  
 2280  
 caggccatgc tgaccaacct ggagagcctc tcaactggatc gtatctacaa catgctccgc  
 2340  
 atgtttgtgg tgactgggcc tgcactggcc gagattgacc tgcaggagct gcagggctac  
 2400  
 ctgcagaaga aggtgcggga ccagcagctc gtctactcgg ccggcgtcta ccgcctgccc  
 2460  
 aagaactgca gctgacacat cgcgcgcgcg cccgcgcgcg cgcaggcgc tgccttgca  
 2520  
 gtgctctcgt cctcccgtgc cagccccgc cgcgcgcgtgt cccagaatgc actgctgagg  
 2580  
 agcatgccca cccccacccc cgcagtgtgc agattaaagc aagtcagatc atcaaaaaaa  
 2640

&lt;210&gt; 3876

&lt;211&gt; 824

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3876

Met	Ala	Ala	Ala	Val	Val	Val	Ala	Glu	Gly	Asp	Ser	Asp	Ser	Arg	Pro
1				5					10					15	
Gly	Gln	Glu	Leu	Leu	Val	Ala	Trp	Asn	Thr	Val	Ser	Thr	Gly	Leu	Val
			20					25					30		
Pro	Pro	Ala	Ala	Leu	Gly	Leu	Val	Ser	Ser	Arg	Thr	Ser	Gly	Ala	Val
		35				40						45			
Pro	Pro	Lys	Glu	Glu	Glu	Leu	Arg	Ala	Ala	Val	Glu	Val	Leu	Arg	Gly
		50				55					60				
His	Gly	Leu	His	Ser	Val	Leu	Glu	Glu	Trp	Phe	Val	Glu	Val	Leu	Gln
65					70					75				80	
Asn	Asp	Leu	Gln	Ala	Asn	Ile	Ser	Pro	Glu	Phe	Trp	Asn	Ala	Ile	Ser
			85						90					95	
Gln	Cys	Glu	Asn	Ser	Ala	Asp	Glu	Pro	Gln	Cys	Leu	Leu	Leu	Leu	Leu
		100						105					110		
Asp	Ala	Phe	Gly	Leu	Leu	Glu	Ser	Arg	Leu	Asp	Pro	Tyr	Leu	Arg	Ser
		115					120					125			
Leu	Glu	Leu	Leu	Glu	Lys	Trp	Thr	Arg	Leu	Gly	Leu	Leu	Met	Gly	Thr

130	135	140
Gly Ala Gln Gly Leu Arg Glu Glu Val His Thr Met Leu Arg Gly Val		
145	150	155
Leu Phe Phe Ser Thr Pro Arg Thr Phe Gln Glu Met Ile Gln Arg Leu		160
	165	170
Tyr Gly Cys Phe Leu Arg Val Tyr Met Gln Ser Lys Arg Lys Gly Glu		175
	180	185
Gly Gly Thr Asp Pro Glu Leu Glu Gly Glu Leu Asp Ser Arg Tyr Ala		190
	195	200
Arg Arg Arg Tyr Tyr Arg Leu Leu Gln Ser Pro Leu Cys Ala Gly Cys		205
	210	215
Ser Ser Asp Lys Gln Gln Cys Trp Cys Arg Gln Ala Leu Glu Gln Phe		220
225	230	235
His Gln Leu Ser Gln Val Leu His Arg Leu Ser Leu Leu Glu Arg Val		240
	245	250
Ser Ala Glu Ala Val Thr Thr Thr Leu His Gln Val Thr Arg Glu Arg		255
	260	265
Met Glu Asp Arg Cys Arg Gly Glu Tyr Glu Arg Ser Phe Leu Arg Glu		270
	275	280
Phe His Arg Trp Ile Glu Arg Val Val Gly Trp Leu Gly Lys Val Phe		285
	290	295
Leu Gln Asp Gly Pro Ala Arg Pro Ala Ser Pro Glu Ala Gly Asn Thr		300
305	310	315
Leu Arg Arg Trp Arg Cys His Val Gln Arg Phe Phe Tyr Arg Ile Tyr		320
	325	330
Ala Ser Leu Arg Ile Glu Glu Leu Phe Ser Ile Val Arg Asp Phe Pro		335
	340	345
Asp Ser Arg Pro Ala Ile Glu Asp Leu Lys Tyr Cys Leu Glu Arg Thr		350
	355	360
Asp Gln Arg Gln Gln Leu Leu Val Ser Leu Lys Ala Ala Leu Glu Thr		365
	370	375
Arg Leu Leu His Pro Gly Val Asn Thr Cys Asp Ile Ile Thr Leu Tyr		380
385	390	395
Ile Ser Ala Ile Lys Ala Leu Arg Val Leu Asp Pro Ser Met Val Ile		400
	405	410
Leu Glu Val Ala Cys Glu Pro Ile Arg Arg Tyr Leu Arg Thr Arg Glu		415
	420	425
Asp Thr Val Arg Gln Ile Val Ala Gly Leu Thr Gly Asp Ser Asp Gly		430
	435	440
Thr Gly Asp Leu Ala Val Glu Leu Ser Lys Thr Asp Pro Ala Ser Leu		445
	450	455
Glu Thr Gly Gln Asp Ser Glu Asp Asp Ser Gly Glu Pro Glu Asp Trp		460
465	470	475
Val Pro Asp Pro Val Asp Ala Asp Pro Gly Lys Ser Ser Ser Lys Arg		480
	485	490
Arg Ser Ser Asp Ile Ile Ser Leu Leu Val Ser Ile Tyr Gly Ser Lys		495
	500	505
Asp Leu Phe Ile Asn Glu Tyr Arg Ser Leu Leu Ala Asp Arg Leu Leu		510
	515	520
His Gln Phe Ser Phe Ser Pro Glu Arg Glu Ile Arg Asn Val Glu Leu		525
	530	535
Leu Lys Leu Arg Phe Gly Glu Ala Pro Met His Phe Cys Glu Val Met		540
545	550	555
Leu Lys Asp Met Ala Asp Ser Arg Arg Ile Asn Ala Asn Ile Arg Glu		560

```
<210> 3877
<211> 1112
<212> DNA
<213> Homo sapiens
```

```
<400> 3877
nngaattcca tgaaacatga ggatcccagt atcatatcca tggaagatgg gtccccatat
60
gttaatggct cattaggtga agtgactcca tgccaacatg caaagaaggc gaatggccca
120
aactatattc agcctcaaaa aagacagacc acttttgaaa gccaggatcg caaggcagtg
180
tcccctagca gttctgaaaa gagaagtaag aatcctatct ctaggccatt agaaggtaag
240
aagtccttaa gtcttagtgc aaagactcac aacataggct ttgacaaaga cagctgccat
300
agtaccacaa agacagaagc ttcacaggaa gagcgggtctg attcaagcgg cctcacatct
360
ctcaagaaat caccaaaggt ctcatccaag gacactcggg aaatcaaaac tgattttctca
420
```

ctttctatta gtaattcgtc agatgtgagt gctaaagata agcatgctga agaçaatgag  
 480  
 aagcgtttgg cagccttggga agcgaggcaa aaagcaaaag aagtgcagaa gaagctgggtg  
 540  
 cataatgctc tggcaaattt ggatgggtcat ccagaggata agccaaçgca catcatcttc  
 600  
 ggttctgaca gtgaatgtga aacagaggag acatcgactc aggagcagag ccatccagga  
 660  
 gaggaatggg tgaaagagtc tatgggtaaa acatcaggga agctgtttga tagcagtgat  
 720  
 gatgaggaat ctgattctga agatgacagt aatagggttca aaattaaacc tcagtttgag  
 780  
 ggcagagctg gacagaagct catggattta cagtcgcact ttggcaccga tgacagattc  
 840  
 cgcattggact ctcgatttct agaaactgac agtgaagagg aacaggaaga ggtaaatgaa  
 900  
 aagaaaactg ctgaggaaga agagcttgct gaagaaaaaa agaaagccct gaatgttgta  
 960  
 caaagtgttt tgcaaatcaa cttagcaat tctacaaaca gaggatcagt agctgctaag  
 1020  
 aaatttaagg acatcataca ttatgatcca acgaagcaag accatgccac ttacgaaaga  
 1080  
 aaaagagatg ataaaccaa agaaagtaaa gc  
 1112

<210> 3878

<211> 370

<212> PRT

<213> Homo sapiens

<400> 3878

Xaa	Asn	Ser	Met	Lys	His	Glu	Asp	Pro	Ser	Ile	Ile	Ser	Met	Glu	Asp
1				5				10					15		
Gly	Ser	Pro	Tyr	Val	Asn	Gly	Ser	Leu	Gly	Glu	Val	Thr	Pro	Cys	Gln
			20				25					30			
His	Ala	Lys	Lys	Ala	Asn	Gly	Pro	Asn	Tyr	Ile	Gln	Pro	Gln	Lys	Arg
		35				40					45				
Gln	Thr	Thr	Phe	Glu	Ser	Gln	Asp	Arg	Lys	Ala	Val	Ser	Pro	Ser	Ser
	50					55				60					
Ser	Glu	Lys	Arg	Ser	Lys	Asn	Pro	Ile	Ser	Arg	Pro	Leu	Glu	Gly	Lys
65					70				75				80		
Lys	Ser	Leu	Ser	Leu	Ser	Ala	Lys	Thr	His	Asn	Ile	Gly	Phe	Asp	Lys
			85					90					95		
Asp	Ser	Cys	His	Ser	Thr	Thr	Lys	Thr	Glu	Ala	Ser	Gln	Glu	Glu	Arg
		100					105					110			
Ser	Asp	Ser	Ser	Gly	Leu	Thr	Ser	Leu	Lys	Lys	Ser	Pro	Lys	Val	Ser
		115				120						125			
Ser	Lys	Asp	Thr	Arg	Glu	Ile	Lys	Thr	Asp	Phe	Ser	Leu	Ser	Ile	Ser
	130					135				140					
Asn	Ser	Ser	Asp	Val	Ser	Ala	Lys	Asp	Lys	His	Ala	Glu	Asp	Asn	Glu
145					150					155				160	
Lys	Arg	Leu	Ala	Ala	Leu	Glu	Ala	Arg	Gln	Lys	Ala	Lys	Glu	Val	Gln
			165					170					175		
Lys	Lys	Leu	Val	His	Asn	Ala	Leu	Ala	Asn	Leu	Asp	Gly	His	Pro	Glu

180	185	190
Asp Lys Pro Thr His Ile Ile Phe Gly Ser Asp Ser Glu Cys Glu Thr		
195	200	205
Glu Glu Thr Ser Thr Gln Glu Gln Ser His Pro Gly Glu Glu Trp Val		
210	215	220
Lys Glu Ser Met Gly Lys Thr Ser Gly Lys Leu Phe Asp Ser Ser Asp		
225	230	235
Asp Glu Glu Ser Asp Ser Glu Asp Asp Ser Asn Arg Phe Lys Ile Lys		
245	250	255
Pro Gln Phe Glu Gly Arg Ala Gly Gln Lys Leu Met Asp Leu Gln Ser		
260	265	270
His Phe Gly Thr Asp Asp Arg Phe Arg Met Asp Ser Arg Phe Leu Glu		
275	280	285
Thr Asp Ser Glu Glu Glu Gln Glu Glu Val Asn Glu Lys Lys Thr Ala		
290	295	300
Glu Glu Glu Glu Leu Ala Glu Glu Lys Lys Lys Ala Leu Asn Val Val		
305	310	315
Gln Ser Val Leu Gln Ile Asn Leu Ser Asn Ser Thr Asn Arg Gly Ser		
325	330	335
Val Ala Ala Lys Lys Phe Lys Asp Ile Ile His Tyr Asp Pro Thr Lys		
340	345	350
Gln Asp His Ala Thr Tyr Glu Arg Lys Arg Asp Asp Lys Pro Lys Glu		
355	360	365
Ser Lys		
370		

&lt;210&gt; 3879

&lt;211&gt; 2769

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3879

```

ntcatgacca cattcagtca gctccgagac ctccacctgg aggggaactt cctacaccgc
60
ctccccagcg aggtcagtgc cctgcagcac ctcaaggcca ttgacctgtc ccggaaccag
120
ttccaggact tccctgagca gcttaccgcc ctgccggcgc tggagaccat caacctggag
180
gagaacgaga tcgtagatgt gcccgtggag aagctggccg ccatgccagc cttgcgcagc
240
atcaacctcc gtttcaacct actcaacgcc gaggtgcgcg tgategcccc gccgctcatc
300
aagtttgaca tgctcatgtc tccggaaggc gcaagagccc ccctacctta ggccaccctc
360
ctcatgccca ccagcaagg gacagaggcc acaggcctgg aacctgggaa gggagggagg
420
cccatgggag gccaagcctg ggggctgggg gcgggtgggc caagcagcac gtggtgggtg
480
gggtgcagct ggtctggata gatagcttac agcagtagtg ggctctggaa tgcccaaggg
540
aagaggcaag gtggggcctg cagcctggac tcggcactca cagctgctgt gcaaactcag
600
gcagatctcc tgccctctct gagccttgct acttgaaaaa aacaggaccc tttccctcct
660

```

ttgggctccc tggagggttt taagcagtac gtgcctccaa gttacctcca gatcagcagg  
720  
cacagggtggg cattgccagg tattttctga gcccctgcgg gtttgaggcc ttgttttag  
780  
tgctgagagc cagttgctgc cctgagaaga gaagacaacc tccatctatt tattgcttcc  
840  
tgagaactga cctggatgcg gccctctgca gggcccagtc ttcagtcctg tggccctgg  
900  
actggtggga acctgaacta ggagtcctgg gagagctgtg gtgggaatat gggctggcac  
960  
tgctgcaggg caagaacatt catgtaggag cccgaggacc agcaggctgg gaatggggag  
1020  
caagtcacgt cagctctgtc attccccaca gttaacaaat tggcgggggtg ggaagtcctg  
1080  
agtgtccgt ccctctagca tcaactctga gctgcgggag aggtggccca gagaacagca  
1140  
gagtcagtta cacctgcagc tcttgtctaa agtgattaga tggccaccct caccactgtc  
1200  
cagtcagca gcagcctggc tgccttgca tggcctcctg ggggcagaag gcgatgtgga  
1260  
ccacgggatt tgtagccagc cagctcccag gccaacgccc aaagccctga tgacctggtt  
1320  
cttctgaggc cctcaacctg gcatcttagg gtatggtcag gcaacagggt gaccagctgt  
1380  
cctgggttcc caggacatgg aactttcaat gctaaaactg ggacattacc cagcaagtgg  
1440  
ggatgggttg tccctacca ggagagggcc tggggctctt gcttcccag aacgcctgtg  
1500  
gcttgaagaa ccttgactgc ttggtcctca ggtatctacc tcccacctc tctcatctg  
1560  
tggagcaagc caactcagtg cccagaccc cactgatct gcatcttgt ttgcatctcc  
1620  
agagacacct gagggcccag agcttgaggc aaagccaggc cgtccaaatc ctgtgtgccg  
1680  
tggacgagtg gccactttac tactcctaag gctaagatgt tgagagctca gaccactgct  
1740  
cagagcagta atccctgctc agaatgctcc cagttccctc gtccctgccc aggtctcttg  
1800  
tctcttggga aggaactgat aggtcgggcc attgttgggc catcattgag cgctcagtat  
1860  
ctcaagagac tctgttcatt ctgctcgat cccaaggcct ggttggtcaa actctgggca  
1920  
aagggttttc aggatgagga ggtcaagaca ggatgtccag agctaccgag ttcactctgtg  
1980  
ggtgttgggg gcaagtgggg gctgaagtcc tgtgcaggct gcgctggccc cacctgcctt  
2040  
gtgccctgga gtggggtttc tccttggtga agaagaggca tccttctctg atgtgcacaa  
2100  
acacaatgta tgaccagagc cttgcaactc aaagtgtggt ctgtggacca gcagcggcag  
2160  
tgacacctgg gagcttggtta ggaatgcaga gtctaggcct caccctatac ctcccagctc  
2220  
agaccctgca ttttagcaag acccccagct gattcctata agcactttag agtttgagaa  
2280



gcaaggacct aggcctgggga tgcctccga gcagagggtg aagtttctct cagttctctc  
 2340  
 cctgccactt ccagggatct gagcctgtgt tcagcctcct ccctaaccga ccctgggaga  
 2400  
 cacttggcct gttagattgt tccagagtct gcatggcact cctgaagaag ggagtgtgac  
 2460  
 ctgcagtcac caggagatga ggggttaggtg tgcccagccc tccagaccg gcctttctgg  
 2520  
 ttaaccctg catgccaagc tgctgtctgc cccaggtcct cacctcaggc ctttgaaggg  
 2580  
 gcagcttctg gaagttgttt tctcctctgc ttggagagtt tgcccttgtc tgtcttgga  
 2640  
 agtgtgggca gccacagatg ccccaaatc agagctcaca gtgagtgagc ccctaagctt  
 2700  
 cagtctgcaa taaagaatgc attggtttca aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2760  
 aaaaaaaaaa  
 2769

&lt;210&gt; 3880

&lt;211&gt; 116

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3880

Xaa	Met	Thr	Thr	Phe	Ser	Gln	Leu	Arg	Asp	Leu	His	Leu	Glu	Gly	Asn
1				5					10					15	
Phe	Leu	His	Arg	Leu	Pro	Ser	Glu	Val	Ser	Ala	Leu	Gln	His	Leu	Lys
			20					25					30		
Ala	Ile	Asp	Leu	Ser	Arg	Asn	Gln	Phe	Gln	Asp	Phe	Pro	Glu	Gln	Leu
		35					40					45			
Thr	Ala	Leu	Pro	Ala	Leu	Glu	Thr	Ile	Asn	Leu	Glu	Glu	Asn	Glu	Ile
	50					55					60				
Val	Asp	Val	Pro	Val	Glu	Lys	Leu	Ala	Ala	Met	Pro	Ala	Leu	Arg	Ser
65					70					75				80	
Ile	Asn	Leu	Arg	Phe	Asn	Pro	Leu	Asn	Ala	Glu	Val	Arg	Val	Ile	Ala
			85						90					95	
Pro	Pro	Leu	Ile	Lys	Phe	Asp	Met	Leu	Met	Ser	Pro	Glu	Gly	Ala	Arg
		100						105						110	
Ala	Pro	Leu	Pro												
		115													

&lt;210&gt; 3881

&lt;211&gt; 1393

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3881

gatctgggtc cctggagcca gtacgtcct ccagagtga gccaggggga cagtggagcc  
 60  
 aaggaggca aagtgaagct tctgggaaa cctgtgcaga tgccctctct gaactggcca  
 120  
 gaagccctgc cccacctcc tcttcttgt gaactgagct gcctagaagg gccggaggag  
 180

gagctggagg gcagctcaga gccagaggag tgggtccccgc caatgcctga gagaagtcac  
 240  
 ctgacggagc ccagctccag tggaggggtgg ctggtcaccc catcccgag ggaaaccccc  
 300  
 tctccacac ctctctatgg acagcagtc acagccactc ttacaccctc acctcctgac  
 360  
 cctccccagc ccccaactga catgccccat ctccatcaga tgcccaggag ggtgccccctt  
 420  
 gggccgagtt cccctctcag tgtatcccag cccatgctgg gcatccgtga agcgaggcct  
 480  
 gctggcttgg gtgctggccc tgcagcctca cccacactca gcccagtc tgccttagc  
 540  
 acagccagca gtgccccagg cagaacctgg caggggaatg gggagatgac tccccactt  
 600  
 caaggacccc gtgctcgatt ccggaagaaa cccaaggctc ttccctacag gagggagAAC  
 660  
 agtcctgggg acttgcccc accacccttg ccaccgccag agngaagagg cgagctgggg  
 720  
 cctagagctg agggcagcag gcagcatgtc ctccctggag cgggagcgca gtggggagag  
 780  
 gaaagcggtc caggccgtgc ccctggcagc ccagcgggtg ctccaccag atgaagaggc  
 840  
 ctggctccca tacagcagac caagcttctt gtcccggggc cagggcacca gcacatgttc  
 900  
 cacggccggc agcaactctt ccaggggctc cagcagctct aggggctccc ggggccctgg  
 960  
 ccggagccgg agtcggagtc agagccggag ccagagccaa aggccaggac agaaacgccg  
 1020  
 agaggaacca agatgaccct tgttggggca ttgagaatat catgagtgc acggggaagg  
 1080  
 ggagtaggga tgtcttttcc ccccagcag tgatgagtgg ggctagctga agccattgg  
 1140  
 tttccacgat ttcaattggc tgagaaggca gagagctagc tctcccttt cttcttttt  
 1200  
 ccacctgaga cttgtttata aaaaacaaaa caataaaaag agtctgatca gagcccagg  
 1260  
 ccctgtctgt ctggttctgt gcagcaggtt gggaagaagg ggactgcagg gtctgtata  
 1320  
 tcaacgcaca ctggtagctt ctgcttcccc tgccatccgt caaaagcact aagttaggcc  
 1380  
 agcacaatgc cct  
 1393

&lt;210&gt; 3882

&lt;211&gt; 277

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3882

Asp	Leu	Gly	Pro	Trp	Ser	Gln	Tyr	Ala	Pro	Pro	Glu	Trp	Ser	Gln	Gly
1				5					10					15	
Asp	Ser	Gly	Ala	Lys	Gly	Gly	Lys	Val	Lys	Leu	Leu	Gly	Lys	Pro	Val
			20					25					30		
Gln	Met	Pro	Ser	Leu	Asn	Trp	Pro	Glu	Ala	Leu	Pro	Pro	Pro	Pro	Pro

35 40 45  
 Ser Cys Glu Leu Ser Cys Leu Glu Gly Pro Glu Glu Glu Leu Glu Gly  
 50 55 60  
 Ser Ser Glu Pro Glu Glu Trp Cys Pro Pro Met Pro Glu Arg Ser His  
 65 70 75 80  
 Leu Thr Glu Pro Ser Ser Ser Gly Gly Trp Leu Val Thr Pro Ser Arg  
 85 90 95  
 Arg Glu Thr Pro Ser Pro Thr Pro Ser Tyr Gly Gln Gln Ser Thr Ala  
 100 105 110  
 Thr Leu Thr Pro Ser Pro Pro Asp Pro Pro Gln Pro Pro Thr Asp Met  
 115 120 125  
 Pro His Leu His Gln Met Pro Arg Arg Val Pro Leu Gly Pro Ser Ser  
 130 135 140  
 Pro Leu Ser Val Ser Gln Pro Met Leu Gly Ile Arg Glu Ala Arg Pro  
 145 150 155 160  
 Ala Gly Leu Gly Ala Gly Pro Ala Ala Ser Pro His Leu Ser Pro Ser  
 165 170 175  
 Pro Ala Pro Ser Thr Ala Ser Ser Ala Pro Gly Arg Thr Trp Gln Gly  
 180 185 190  
 Asn Gly Glu Met Thr Pro Pro Leu Gln Gly Pro Arg Ala Arg Phe Arg  
 195 200 205  
 Lys Lys Pro Lys Ala Leu Pro Tyr Arg Arg Glu Asn Ser Pro Gly Asp  
 210 215 220  
 Leu Pro Pro Pro Pro Leu Pro Pro Pro Glu Xaa Arg Gly Glu Leu Gly  
 225 230 235 240  
 Pro Arg Ala Glu Gly Ser Arg Gln His Val Leu Pro Gly Ala Gly Ala  
 245 250 255  
 Gln Trp Gly Glu Glu Ser Gly Pro Gly Arg Ala Pro Gly Ser Pro Ala  
 260 265 270  
 Gly Ala Pro Pro Arg  
 275

&lt;210&gt; 3883

&lt;211&gt; 943

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3883

nccccggggac ggggggtcgga aaagagaaaag aagaagagca ggaaagacac ctcgaggaac  
 60  
 tgctcggcct ccacatccca agagagaagc aagcagaagg cccggaggag aacaagatcc  
 120  
 agctcctcct cctcttcttc cagttcttct agctcctctt ctctctcttc gtctctctcc  
 180  
 tcttctctca gtgatggcgg gaagaagcgg gggaagtaca aggacaagag gaggaagaag  
 240  
 aagaagaaga ggaagaagct gaagaagaag ggcaaggaga aggcggaagc acagcaggtg  
 300  
 gaggtcttgc cgggcccttc gctggaccag tggcaccgat cagctgggga ggaagaggat  
 360  
 ggcccgatcc tgacggatga gcaggtcccg aatccaggcc atgaagccca tgaccaagga  
 420  
 ggatgggatg cccggcagag cgttattcga aaggtggtgg acccagagac ggggcgcacc  
 480

aggcattatta agggagatgg cgaggctcta gaggaatcg taaccaaaga acgacacaga  
 540  
 gagatcaaca aggtgggtgt ggccctctg cctgccatcc gccccagct ctgtttgtga  
 600  
 tgtacccctc ctctgtgtg ctttcttccc cagcaagcca cccgagggga ctgcctggcc  
 660  
 ttccagatgc gagctgggtt gcttccctga gggccccgc tggccaaggc ctgtggacga  
 720  
 cgctggcggc ccagcctggg caggtttcag ggtgccagt ggaagcctga tgggtgctgg  
 780  
 tggcctttcc cccgtggatt ggtctctggc ccagcccagt ctcttctcag gggcaggggg  
 840  
 tggaggttgg ggtcaccggc ctgcttggca ccccatctg aaagagcagc acttctcagc  
 900  
 tattaaaggc cccctggata gacaaaaaaaa aaaaaaaaaa aaa  
 943

<210> 3884

<211> 199

<212> PRT

<213> Homo sapiens

<400> 3884

Xaa	Arg	Gly	Arg	Gly	Ser	Glu	Lys	Arg	Lys	Lys	Lys	Ser	Arg	Lys	Asp
1				5					10					15	
Thr	Ser	Arg	Asn	Cys	Ser	Ala	Ser	Thr	Ser	Gln	Glu	Arg	Ser	Lys	Gln
			20					25					30		
Lys	Ala	Arg	Arg	Arg	Thr	Arg	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser
		35					40						45		
Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser
		50					55						60		
Asp	Gly	Arg	Lys	Lys	Arg	Gly	Lys	Tyr	Lys	Asp	Lys	Arg	Arg	Lys	Lys
65					70					75				80	
Lys	Lys	Lys	Arg	Lys	Lys	Leu	Lys	Lys	Lys	Gly	Lys	Glu	Lys	Ala	Glu
			85					90					95		
Ala	Gln	Gln	Val	Glu	Ala	Leu	Pro	Gly	Pro	Ser	Leu	Asp	Gln	Trp	His
			100					105					110		
Arg	Ser	Ala	Gly	Glu	Glu	Glu	Asp	Gly	Pro	Val	Leu	Thr	Asp	Glu	Gln
		115					120					125			
Val	Pro	Asn	Pro	Gly	His	Glu	Ala	His	Asp	Gln	Gly	Gly	Trp	Asp	Ala
		130				135					140				
Arg	Gln	Ser	Val	Ile	Arg	Lys	Val	Val	Asp	Pro	Glu	Thr	Gly	Arg	Thr
145					150					155				160	
Arg	Leu	Ile	Lys	Gly	Asp	Gly	Glu	Val	Leu	Glu	Glu	Ile	Val	Thr	Lys
			165					170					175		
Glu	Arg	His	Arg	Glu	Ile	Asn	Lys	Val	Gly	Val	Ala	Pro	Leu	Pro	Ala
			180				185						190		
Ile	Arg	Pro	Gln	Leu	Cys	Leu									
			195												

<210> 3885

<211> 1671

<212> DNA

<213> Homo sapiens

<400> 3885  
cctaggtcc cccctcctcc catccccagc ctgggggaac cttcagcgtc tctcctccct  
60  
gtaggccccg gctcagcttc ccaggaaactt ttgttggtgg gtactagtgg ggtaaggcag  
120  
ttcttcccat catgaggag accttgggag actttcatta ccaaaccat tgctgccccg  
180  
accttcttg gactgatctg ggtcaccctg gtctcctgat cttggagaag tcaagttctt  
240  
atcccagact tgagagggtta caagcctcca ggtctctggc aaagtgtgga gatgatggac  
300  
agccatttgt acacacacca gccagtcctt tagcatatct ctcttggttt tgtctcaggt  
360  
ctgcctcagc cacctcctg acgctgtccc actgtgtgga tgtggtgaag gggcttcttg  
420  
attttaagaa gaggagaggt cactcaattg ggggagcccc tgagcagcga taccagatca  
480  
tcctgtgtg tgtggctgcc cgacttcta cccgggtcca ggatgtgctg cagcctcctg  
540  
gccactggag gggctgaccg cctgatccac ctctggaatg ttgtgggaag tcgctggag  
600  
gccaaccaga ccctggaggg agctggtggc agcatcacca gtgtggactt tgaccctcg  
660  
ggctaccagg ttttagcagc aacttacaac caggctgccc agctctggaa ggttggggag  
720  
gcacagtcca aggagacact gtctggacac aaggataagg tgacagctgc caaattcaag  
780  
ctaacgaggc accaggcagt gactgggagc cgcgaccgga cagtgaagga gtgggacctc  
840  
ggcgtgcct attgctccag gaccatcaat gtccttctt actgtaatga cgtggtgntg  
900  
tggggaccat atcatcatnn tagtggccac aatgaccaga agatccggtt ctgggacagc  
960  
nnagggggcc cactgcacc caggatcatc ctgntgcagg gccgggtcac ctccctgagc  
1020  
ctcagncac gaccaactnn gcacctgctc agctgttccc gagacaacac actcaaggtc  
1080  
atcgacctgc gtgtcagcaa catccgccag gtgttcaggg ccgatggctt caagtgtggt  
1140  
tctgactgga ccaaagctgt gttcagcccc gacagaagct atgcactggc aggctcctgt  
1200  
gatggggccc ttacatctg ggatgtggac accgggaaac tggagagcag actacaggga  
1260  
cccattgct ctgccgtcaa cgccgtggcc tgggtctact cggggagcca catggtgagc  
1320  
gtggaccagg gcaggaaggt tgtgctctgg cagtagggcc acgacctgcc tgctgggct  
1380  
ggagctcttg ccgaagcct gaagcttctt tcggcgccat gcaggggttg gggttgggac  
1440  
tgagctggc cttgggattt aatggggaag aaggcctggc aggacctggc ctgtttgttt  
1500  
aaaaatgaag tatgggttg gggattacgc tagtttttct ttgtattttt atctctatct  
1560

atctctcac tttttctccc aaagtagaaa aaaatgatat ctgaaaaaaaa aaaaaaaaaa  
 1620  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a  
 1671

<210> 3886

<211> 277

<212> PRT

<213> Homo sapiens

<400> 3886

Met Cys Cys Ser Leu Leu Ala Thr Gly Gly Ala Asp Arg Leu Ile His  
 1 5 10 15  
 Leu Trp Asn Val Val Gly Ser Arg Leu Glu Ala Asn Gln Thr Leu Glu  
 20 25 30  
 Gly Ala Gly Gly Ser Ile Thr Ser Val Asp Phe Asp Pro Ser Gly Tyr  
 35 40 45  
 Gln Val Leu Ala Ala Thr Tyr Asn Gln Ala Ala Gln Leu Trp Lys Val  
 50 55 60  
 Gly Glu Ala Gln Ser Lys Glu Thr Leu Ser Gly His Lys Asp Lys Val  
 65 70 75 80  
 Thr Ala Ala Lys Phe Lys Leu Thr Arg His Gln Ala Val Thr Gly Ser  
 85 90 95  
 Arg Asp Arg Thr Val Lys Glu Trp Asp Leu Gly Arg Ala Tyr Cys Ser  
 100 105 110  
 Arg Thr Ile Asn Val Leu Ser Tyr Cys Asn Asp Val Val Xaa Trp Gly  
 115 120 125  
 Pro Tyr His His Xaa Ser Gly His Asn Asp Gln Lys Ile Arg Phe Trp  
 130 135 140  
 Asp Ser Xaa Gly Gly Pro Thr Ala Pro Arg Ser Ser Leu Xaa Gln Gly  
 145 150 155 160  
 Arg Val Thr Ser Leu Ser Leu Ser Xaa Arg Pro Thr Xaa His Leu Leu  
 165 170 175  
 Ser Cys Ser Arg Asp Asn Thr Leu Lys Val Ile Asp Leu Arg Val Ser  
 180 185 190  
 Asn Ile Arg Gln Val Phe Arg Ala Asp Gly Phe Lys Cys Gly Ser Asp  
 195 200 205  
 Trp Thr Lys Ala Val Phe Ser Pro Asp Arg Ser Tyr Ala Leu Ala Gly  
 210 215 220  
 Ser Cys Asp Gly Ala Leu Tyr Ile Trp Asp Val Asp Thr Gly Lys Leu  
 225 230 235 240  
 Glu Ser Arg Leu Gln Gly Pro His Cys Ala Ala Val Asn Ala Val Ala  
 245 250 255  
 Trp Cys Tyr Ser Gly Ser His Met Val Ser Val Asp Gln Gly Arg Lys  
 260 265 270  
 Val Val Leu Trp Gln  
 275

<210> 3887

<211> 5612

<212> DNA

<213> Homo sapiens

<400> 3887

nngggcccag cagccactga gccagcaggc gggatcgagg ccggcaacat ggcgagcgct  
60  
tcgtaccaca tctccaactt gctggaaaaa atgacatcca gcgacaagga cttcaggttt  
120  
atggctacaa atgatctgat gacagaactg cagaaagact ccatcaagct ggatgatgac  
180  
agcgaaagga aagtcgtaaa gatgattctg aagttgctgg aggataaaaa tggcgaagtg  
240  
cagaacttag ctgtgaaatg tcttggctct ttagtgagta aagtgaaga gtaccaagtt  
300  
gagacgattg tagataccct ctgcactaac atgctttctg ataaagaaca acttcgagac  
360  
atttcaagta ttggtcttaa aacagtaatt ggagaacttc ctccagcttc cagtggctct  
420  
gcattagctg ctaatgtatg taaaaagatt actggacgtc ttacaagtgc aatagcaaaa  
480  
caggaagatg tctctgttca gctagaagcc ttggatatta tggctgatat gttgagcagg  
540  
caaggaggac ttcttgttaa tttccatcct tcaattctga cctgtctact tccccagttg  
600  
accagcccta gacttgcagt gaggaaaaga accattatcg ctcttggcca tctggttatg  
660  
agctgtggaa atatagtttt tgtagatctt attgaacatc tgttgcaga gttgtccaaa  
720  
aatgattcta tgtcaacaac aagaacctac atacaatgta ttgctgctat tagtaggcaa  
780  
gctggtcata gaataggtga atacctgag aagataatc ctttgggtgt aaaattttgc  
840  
aatgtagatg atgatgaatt aagagagtac tgtattcaag cctttgaatc atttgaaga  
900  
agatgtccta aggaagtata tcctcatgtt tctaccatta taaatatttg tcttaaatat  
960  
cttacctatg atccaaatta taattacgat gatgaagatg aagatgaaaa tgcaatggat  
1020  
gctgatggtg gtgatgatga tgatcaaggg agtgatgatg aatacagtga tgatgatgac  
1080  
atgagttgga aagtgagacg tgcagctgag aagtgcctgg atgctgtagt tagcacaagg  
1140  
catgaaatgc ttccagaatt ctacaagacc gtctctcctg cactaatatc cagatttaaa  
1200  
gagcgtgaag agaatgtaaa ggcagatgtt tttcacgcat acctttctct tttgaagcaa  
1260  
actcgtcctg tacaaagttg gctatgtgac cctgatgcaa tggagcaggg agaaacacct  
1320  
ttaacaatgc ttcagagtca ggttcccaac attgttaaag ctcttcacaa acagatgaaa  
1380  
gaaaaaagtg tgaagacccg acagtgttgt tttaacatgt taactgagct ggtaaatgta  
1440  
ttacctgggg ccctaactca acacattcct gtactgttac caggaatcat tttctcactg  
1500  
aatgataaat caagctcatc gaatttgaag atcgatgctt tgtcatgtct atacgtaatc  
1560  
ctctgtaacc attctctca agtcttccat cctcacgttc aggcttgggt tctccagtg  
1620

gtggcttggtg ttggagaccc attttacaaa attacatctg aagcacttct tgttactcaa  
1680  
cagcttggtca aagtaattcg tccttttagat cagccttcct cgtttgatgc aactccttat  
1740  
atcaaagatc tatttacctg taccattaag agattaaaag cagctgacat tgatcaggaa  
1800  
gtcaaggaaa gggctatttc ctgtatggga caaattatct gcaaccttgg agacaatttg  
1860  
ggttctgact tgcctaatac acttcagatt ttcttggaga gactaaagaa tgaaattacc  
1920  
agggttaacta cagtaaaggc attgacactg attgctgggt cacctttgaa gatagatttg  
1980  
aggcctgttc tgggagaagg ggctcctatc cttgcttcat ttcttagaaa aaaccagaga  
2040  
gctttgaaac tgggtactct ttctgccctt gatattctaa taaaaaacta tagtgacagc  
2100  
ttgacagctg ccatgattga tgcagttcta gatgagctcc cacctcttat cagcgaaagt  
2160  
gatatgcatg tttcacaaat ggccatcagt ttctttacca ctttggcaaa agtatatccc  
2220  
tcctcccttt caaagataag tggatccatt ctcaatgaac ttattggact tgtgagatca  
2280  
cccttattgc aggggggagc tcttagtgcc atgctagact tttccaagc tctggttgtc  
2340  
actggaacaa ataatttagg atacatggat ttgttgcgca tgctgactgg tccagtttac  
2400  
tctcagagca cagctcttac tcataagcag tcttattatt ccattgcaa atgtgtagct  
2460  
gcccttactc gagcatgcc taaagaggga ccagctgtag taggtcagtt tattcaagat  
2520  
gtcaagaact caaggtctac agattccatt cgtctcttag ctctactttc tcttggagaa  
2580  
gttgggcac atattgactt aagtggacag ttggaactaa aatctgtaat actagaagct  
2640  
ttctcatctc ctagtgaaga agtcaaatca gctgcacct atgcattagg cagcattagt  
2700  
gtgggcaacc ttctgaata tctgcggtt gtcttgcaag aaataactag tcaacccaaa  
2760  
aggcagtatc ttttacttca ttcttgaag gaaattatta gctctgcac agtgggtgggc  
2820  
cttaaaccat atgttgaaaa catctgggcc ttattactaa agcactgtga gtgtgcagag  
2880  
gaaggaaaca gaaatgttgt tgctgaatgt ctaggaaaac tcactcta attgatccagaa  
2940  
actctccttc cagggcttaa ggggtacttg atatcaggct catcatatgc ccgaagctca  
3000  
gtggttacgg ctgtgaaatt tacaatttct gaccatccac aacctattga tccactgtta  
3060  
aagaactgca taggtgatct cctaaaaact ttggaagacc cagatttgaa tgtgagaaga  
3120  
gtagccttgg tcacatttaa ttcagcagca cataacaagc catcattaat aagggatcta  
3180  
ttggatactg ttcttccaca tctttacaat gaaacaaaag ttagaaagga gcttataaga  
3240



gaggtagaaa tgggtccatt taaacatacg gttgatgatg gtctggatat tagaaaggca  
3300  
gcatttgagt gtatgtacac acttctagac agttgtcttg atagacttga tatctttgaa  
3360  
tttctaaatc atgttgaaga tggtttgaag gaccattatg atattaagat gctgacattt  
3420  
ttaatggttg tgagactgtc taccctttgt ccaagtgcag tactgcagag gttggaccga  
3480  
cttgttgagc cattacgtgc aacatgtaca actaaggtaa aggcaaactc agtaaagcag  
3540  
gagtttgaia aacaagatga attaaagcga tctgccatga gagcagtagc agcactacta  
3600  
accattccag aagcagagaa gagtccactg atgagtgaat tccagtcaca gatcagttct  
3660  
aaccctgagc tggcggctat ctttgaaagt atccagaaag attcatcatc tactaacttg  
3720  
gaatcaatgg acactagtta gatgtttgtt caccatgggg accattacat atgaccatac  
3780  
aatgcactga attgacaggt taatcataag acatggaaag agaagtgtct aaaagcttca  
3840  
aaatgttcca cttttttttc cttcatggag actgtttgtt tggctttctt ccattgttgt  
3900  
ttttgtagca tttatttcag aaatgtgtat ttccataatc cagaggttgt aaaaccacta  
3960  
gtgttttagt ggttacagca acatttgaaa tggaaactaa aagttaggat tttatggagt  
4020  
atggagatag ggtccagtat ctatttacc tgaatgttt aggattaaaa tgttaaaatt  
4080  
ttgtgaccat gaatttcttt cttttataaa ttttctcatt taaaaatcaa aaatcttgca  
4140  
aaacaaaaac catgtttctt tttcttgtat aactttttgt tttcagcaac ataaattgat  
4200  
ttttagctgg cagacaagaa tatccatata agatttgta accatttcag agagtttggc  
4260  
aatttttaaa agataataag gtatcatttt taagtatgaa aattaacaat atccctgttg  
4320  
cgcacactaa ttttgcagta gtaagtttac aaatatgtat cgtctgtaaa gcagcatgtg  
4380  
cagattattc ataatataga agttaaaata agtattagtg caattttcag atatttattt  
4440  
ttgcacagaa aacacattat ctggagagaa agaaaggaga atttttgaga cttggggttt  
4500  
cttaatgcca gtgtgaattt gcagatgttt tcagaaaatc aagtcacagt aacaatttgc  
4560  
cacttttttc tgttataaat cttcttactt aaattttgaa tatttagttt ttctcagtta  
4620  
cccatttgtg tgtgtgtgat tccacttaga aattcttaaa accagatttt tctttcatc  
4680  
cgtttgatg tctacattcc ttatcaaagg atataaatac tgtgtatgct tttgaatttt  
4740  
attttagga aaattctgaa gccagctatc acaggtttgt tagctaataa tagtattttc  
4800  
ttttagttga gttagggttt tccccatctc ctgtagagcg aatttacata ttgtattggg  
4860

taagtgttca ctacttttcc tgattaaggg atctgtgctg gggaaacaaag cttttgcagt  
 4920  
 accttatatt gtagttaaaa ttttatttaa catatccttc agtgagctca tttcacactg  
 4980  
 tagcctcttc cttaaaattt gtgggtgctcc tgtaacagta agaactaatt ctgaaataaa  
 5040  
 agacatctcc taatgctgtg caaacatagt ttacatgtat tgaaggaggc agttgttaaa  
 5100  
 ttgagtgacc aatttaagca atcagatatt tgaaaactgc accctttagt tttgaaactg  
 5160  
 tgaattagaa acacttttcc tgctgtatta ctacctgctt taacatccaa atatacagt  
 5220  
 attttaaatg ataacatact gtgggttatta gattaacagc ttgattttga atgttcagat  
 5280  
 gataatgcag aagacatcac ttctagtaag gattttgact agtgcattga tgttgaagtt  
 5340  
 ggtgccattt caaaatgtgg caggtgataa tcttttacca taatttgcac aaaactgtaa  
 5400  
 tagaagttta ttttgagatg ttagtatatt atgtactatg catttctgtg gtatagatgt  
 5460  
 tgtggatata ttttaagtatt tgggtacatg gttttacaat aaattacaat actgcaggct  
 5520  
 ctaggactga acaggagact gacatgcata tgttgtgtga atgtcttagt tgggttaaagt  
 5580  
 taaatccaaa tacttcaact ggcaaaaaaa aa  
 5612

<210> 3888

<211> 1230

<212> PRT

<213> Homo sapiens

<400> 3888

Met	Ala	Ser	Ala	Ser	Tyr	His	Ile	Ser	Asn	Leu	Leu	Glu	Lys	Met	Thr
1				5					10					15	
Ser	Ser	Asp	Lys	Asp	Phe	Arg	Phe	Met	Ala	Thr	Asn	Asp	Leu	Met	Thr
		20						25					30		
Glu	Leu	Gln	Lys	Asp	Ser	Ile	Lys	Leu	Asp	Asp	Asp	Ser	Glu	Arg	Lys
		35					40					45			
Val	Val	Lys	Met	Ile	Leu	Lys	Leu	Leu	Glu	Asp	Lys	Asn	Gly	Glu	Val
	50				55					60					
Gln	Asn	Leu	Ala	Val	Lys	Cys	Leu	Gly	Pro	Leu	Val	Ser	Lys	Val	Lys
65				70					75					80	
Glu	Tyr	Gln	Val	Glu	Thr	Ile	Val	Asp	Thr	Leu	Cys	Thr	Asn	Met	Leu
			85					90					95		
Ser	Asp	Lys	Glu	Gln	Leu	Arg	Asp	Ile	Ser	Ser	Ile	Gly	Leu	Lys	Thr
		100					105					110			
Val	Ile	Gly	Glu	Leu	Pro	Pro	Ala	Ser	Ser	Gly	Ser	Ala	Leu	Ala	Ala
		115					120					125			
Asn	Val	Cys	Lys	Lys	Ile	Thr	Gly	Arg	Leu	Thr	Ser	Ala	Ile	Ala	Lys
	130				135					140					
Gln	Glu	Asp	Val	Ser	Val	Gln	Leu	Glu	Ala	Leu	Asp	Ile	Met	Ala	Asp
145				150					155					160	
Met	Leu	Ser	Arg	Gln	Gly	Gly	Leu	Leu	Val	Asn	Phe	His	Pro	Ser	Ile

3035

```

      595              600              605
Pro Asn Thr Leu Gln Ile Phe Leu Glu Arg Leu Lys Asn Glu Ile Thr
  610              615              620
Arg Leu Thr Thr Val Lys Ala Leu Thr Leu Ile Ala Gly Ser Pro Leu
625              630              635              640
Lys Ile Asp Leu Arg Pro Val Leu Gly Glu Gly Val Pro Ile Leu Ala
      645              650              655
Ser Phe Leu Arg Lys Asn Gln Arg Ala Leu Lys Leu Gly Thr Leu Ser
      660              665              670
Ala Leu Asp Ile Leu Ile Lys Asn Tyr Ser Asp Ser Leu Thr Ala Ala
      675              680              685
Met Ile Asp Ala Val Leu Asp Glu Leu Pro Pro Leu Ile Ser Glu Ser
      690              695              700
Asp Met His Val Ser Gln Met Ala Ile Ser Phe Leu Thr Thr Leu Ala
705              710              715              720
Lys Val Tyr Pro Ser Ser Leu Ser Lys Ile Ser Gly Ser Ile Leu Asn
      725              730              735
Glu Leu Ile Gly Leu Val Arg Ser Pro Leu Leu Gln Gly Gly Ala Leu
      740              745              750
Ser Ala Met Leu Asp Phe Phe Gln Ala Leu Val Val Thr Gly Thr Asn
      755              760              765
Asn Leu Gly Tyr Met Asp Leu Leu Arg Met Leu Thr Gly Pro Val Tyr
      770              775              780
Ser Gln Ser Thr Ala Leu Thr His Lys Gln Ser Tyr Tyr Ser Ile Ala
785              790              795              800
Lys Cys Val Ala Ala Leu Thr Arg Ala Cys Pro Lys Glu Gly Pro Ala
      805              810              815
Val Val Gly Gln Phe Ile Gln Asp Val Lys Asn Ser Arg Ser Thr Asp
      820              825              830
Ser Ile Arg Leu Leu Ala Leu Leu Ser Leu Gly Glu Val Gly His His
      835              840              845
Ile Asp Leu Ser Gly Gln Leu Glu Leu Lys Ser Val Ile Leu Glu Ala
      850              855              860
Phe Ser Ser Pro Ser Glu Glu Val Lys Ser Ala Ala Ser Tyr Ala Leu
865              870              875              880
Gly Ser Ile Ser Val Gly Asn Leu Pro Glu Tyr Leu Pro Phe Val Leu
      885              890              895
Gln Glu Ile Thr Ser Gln Pro Lys Arg Gln Tyr Leu Leu Leu His Ser
      900              905              910
Leu Lys Glu Ile Ile Ser Ser Ala Ser Val Val Gly Leu Lys Pro Tyr
      915              920              925
Val Glu Asn Ile Trp Ala Leu Leu Leu Lys His Cys Glu Cys Ala Glu
      930              935              940
Glu Gly Thr Arg Asn Val Val Ala Glu Cys Leu Gly Lys Leu Thr Leu
945              950              955              960
Ile Asp Pro Glu Thr Leu Leu Pro Arg Leu Lys Gly Tyr Leu Ile Ser
      965              970              975
Gly Ser Ser Tyr Ala Arg Ser Ser Val Val Thr Ala Val Lys Phe Thr
      980              985              990
Ile Ser Asp His Pro Gln Pro Ile Asp Pro Leu Leu Lys Asn Cys Ile
      995              1000              1005
Gly Asp Phe Leu Lys Thr Leu Glu Asp Pro Asp Leu Asn Val Arg Arg
1010              1015              1020
Val Ala Leu Val Thr Phe Asn Ser Ala Ala His Asn Lys Pro Ser Leu

```

```

1025          1030          1035          1040
Ile Arg Asp Leu Leu Asp Thr Val Leu Pro His Leu Tyr Asn Glu Thr
          1045          1050          1055
Lys Val Arg Lys Glu Leu Ile Arg Glu Val Glu Met Gly Pro Phe Lys
          1060          1065          1070
His Thr Val Asp Asp Gly Leu Asp Ile Arg Lys Ala Ala Phe Glu Cys
          1075          1080          1085
Met Tyr Thr Leu Leu Asp Ser Cys Leu Asp Arg Leu Asp Ile Phe Glu
          1090          1095          1100
Phe Leu Asn His Val Glu Asp Gly Leu Lys Asp His Tyr Asp Ile Lys
1105          1110          1115          1120
Met Leu Thr Phe Leu Met Leu Val Arg Leu Ser Thr Leu Cys Pro Ser
          1125          1130          1135
Ala Val Leu Gln Arg Leu Asp Arg Leu Val Glu Pro Leu Arg Ala Thr
          1140          1145          1150
Cys Thr Thr Lys Val Lys Ala Asn Ser Val Lys Gln Glu Phe Glu Lys
          1155          1160          1165
Gln Asp Glu Leu Lys Arg Ser Ala Met Arg Ala Val Ala Ala Leu Leu
          1170          1175          1180
Thr Ile Pro Glu Ala Glu Lys Ser Pro Leu Met Ser Glu Phe Gln Ser
1185          1190          1195          1200
Gln Ile Ser Ser Asn Pro Glu Leu Ala Ala Ile Phe Glu Ser Ile Gln
          1205          1210          1215
Lys Asp Ser Ser Thr Asn Leu Glu Ser Met Asp Thr Ser
          1220          1225          1230

```

&lt;210&gt; 3889

&lt;211&gt; 556

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3889

```

gctctgccgg gccctcgct ggaccagtgg caccgatcag ctggggagga agaggatggc
60
ccagtctga cggatgagca ggtcccgaat ccaggccatg aagcccatga ccaaggagga
120
tgggatgcc gccagagcat catccgaag gtggtggacc ctgagacggg gcgcaccagg
180
cttattaagg gagatggcga ggtcctagag gaaatcgtaa ccaaagaacg acacagagag
240
atcaacaagc aagccacccg aggggactgc ctggccttcc agatgcgagc tgggttgctt
300
ccctgagggc ccccgctggc caaggcctgt ggacgacgct ggcggcccag cctgggcagg
360
tttcagggtg ccagtgggaa gcctgatggg tgctgggtggc ctttcccccg tggattggtc
420
tctggcccag cccagtctct tctcaggggc agggggtgga ggttggggtc accggcctgc
480
ttggcacccc catctgaaag agcagcactt ctcagctatt aaaggcccc tg gatagaca
540
aaaaaaaaaa aaaaaa
556

```

&lt;210&gt; 3890

<211> 101  
 <212> PRT  
 <213> Homo sapiens

<400> 3890  
 Ala Leu Pro Gly Pro Ser Leu Asp Gln Trp His Arg Ser Ala Gly Glu  
 1 5 10 15  
 Glu Glu Asp Gly Pro Val Leu Thr Asp Glu Gln Val Pro Asn Pro Gly  
 20 25 30  
 His Glu Ala His Asp Gln Gly Gly Trp Asp Ala Arg Gln Ser Ile Ile  
 35 40 45  
 Arg Lys Val Val Asp Pro Glu Thr Gly Arg Thr Arg Leu Ile Lys Gly  
 50 55 60  
 Asp Gly Glu Val Leu Glu Glu Ile Val Thr Lys Glu Arg His Arg Glu  
 65 70 75 80  
 Ile Asn Lys Gln Ala Thr Arg Gly Asp Cys Leu Ala Phe Gln Met Arg  
 85 90 95  
 Ala Gly Leu Leu Pro  
 100

<210> 3891  
 <211> 1687  
 <212> DNA  
 <213> Homo sapiens

<400> 3891  
 ncctaggcta cacagaccgt gtggtgcgag ctttccgctg ggaggagcta ggtgagggtc  
 60  
 ctgaacatct ggccgtatcc acaacaagaa tgtctccact cacctaattg gcaacatcaa  
 120  
 acaggccacg gcactgagag tagtggtctt ggccctctttg ccctgtgcac cctggatggg  
 180  
 aactgaagc tcatggaaga aatggaagaa gcagacaagc tgctgtggtc agtgcagggt  
 240  
 gatcaccagc tctttgccct ggagaaactg gatgtcaccg gcaacgggca tgaggaggta  
 300  
 gttgcatgcg cctgggatgg acagacatat atcattgatc acaaccgcac cgtcgtccgc  
 360  
 ttccaagtgg atgaaaatat ccgtgccttc tgtgcaggcc tgtacgcctg caaagagggc  
 420  
 cgcaacagcc cctgcctcgt atatgtcact ttcaaccaga agatctatgt gtactgggag  
 480  
 gtgcagctgg agcggatgga gtctaccaat ctggtgaaac tgctggagac caagccgagt  
 540  
 accacgcct gctgcaggag ctgggcgtgg atcctgacga cctccctgtg actcgtgccc  
 600  
 tgcttcacca aacgctctac catccagacc agccaccaca gtgtgctccc tcaagcctcc  
 660  
 aggatcccac ctagtgttac ttgcctcata gctggtgaag gattcttctg aacccccacc  
 720  
 ctacccccta aaggtatctg tggatttggc aggataggga atatgcatta cagaaatgca  
 780  
 ggatttgact ctgggcatga aagatggcag cagccctagg gtgaccgtga actatagacc  
 840

tcgcagtcctt ttcggtgaaa gaagagacaa gttgaccctc tgcccatttc cttatggacc  
 900  
 tcacccatca tgccagcagg gtcataggac ctggccttgt tccaaatcat ctgggacatg  
 960  
 acccactccc cactgtcact gtgttgaaaa cagagacttg tttgtgtggc cccaacaccc  
 1020  
 ataaggaaac caggcttttag gcccagggga gcagtggagg taagggtcc accccatctt  
 1080  
 aagctctgtc ttccgtggca caattccaag ttcttgacgt tagtaattgt taaaggaatg  
 1140  
 gcaaactggt ttgttttgaa ggatctttct acagtctggg cttacccatg ttcctagcaa  
 1200  
 ccctgagatg attttcttcc atttaccaa gcagccgggt cagtgccttc tcacgttgcc  
 1260  
 gtattcttca ggtattagtc agcttcagaa gccctgctcc catttttcca cccaccatt  
 1320  
 cccccataaa acagcttatt gtctccaaga caatagacat ttaaaatgtg atgcggtttt  
 1380  
 atgatccaga ccacaatcag aattatatct tgggtcattt atgtgccgtc tgttcttgat  
 1440  
 tctctatgct ctaaactcgggt gtttttcaaa ctgtggttgc agtcctttgg tggattatgg  
 1500  
 ccagcatttt taaataggt agaatagaat aaagtaaaat agaaaatagc agagtacatt  
 1560  
 gctctcagt taggtaagta ttgttttggt agtcatatgt gcatgtgtgt actgagtgcc  
 1620  
 atgtaaaatg tattcctgct gtggtaagct gtggtcgagg agtttgaaag ccattgcttt  
 1680  
 caaatcc  
 1687

&lt;210&gt; 3892

&lt;211&gt; 179

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3892

Val	Arg	Val	Leu	Asn	Ile	Trp	Pro	Tyr	Pro	Gln	Gln	Glu	Cys	Leu	His
1				5					10					15	
Ser	Pro	Asn	Trp	Gln	His	Gln	Thr	Gly	His	Gly	Thr	Glu	Ser	Ser	Gly
		20						25					30		
Ser	Gly	Leu	Phe	Ala	Leu	Cys	Thr	Leu	Asp	Gly	Thr	Leu	Lys	Leu	Met
		35					40					45			
Glu	Glu	Met	Glu	Glu	Ala	Asp	Lys	Leu	Leu	Trp	Ser	Val	Gln	Val	Asp
		50				55					60				
His	Gln	Leu	Phe	Ala	Leu	Glu	Lys	Leu	Asp	Val	Thr	Gly	Asn	Gly	His
65				70					75					80	
Glu	Glu	Val	Val	Ala	Cys	Ala	Trp	Asp	Gly	Gln	Thr	Tyr	Ile	Ile	Asp
			85					90					95		
His	Asn	Arg	Thr	Val	Val	Arg	Phe	Gln	Val	Asp	Glu	Asn	Ile	Arg	Ala
		100						105				110			
Phe	Cys	Ala	Gly	Leu	Tyr	Ala	Cys	Lys	Glu	Gly	Arg	Asn	Ser	Pro	Cys
		115					120					125			
Leu	Val	Tyr	Val	Thr	Phe	Asn	Gln	Lys	Ile	Tyr	Val	Tyr	Trp	Glu	Val

130	135	140
Gln Leu Glu Arg Met Glu Ser Thr Asn Leu Val Lys Leu Leu Glu Thr		
145	150	155
Lys Pro Ser Thr Thr Ala Cys Cys Arg Ser Trp Ala Trp Ile Leu Thr		160
	165	170
		175
Thr Ser Leu		

&lt;210&gt; 3893

&lt;211&gt; 1591

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3893

cgcgttctgc agaagttaga tgacgatgga ttgccgttta taggagcaaa actgcagtac  
 60  
 ggagatccgt attacagcta cctcaacctc aacaccgggg aaagttttgt gatgtactat  
 120  
 aagagtaaag aaaattgtgt tgtggataac atcaaagtgt gcagtaatga cactgggagt  
 180  
 ggaaaattca agtgtgtttg catcactatg agagtgcctc ggaaccaac tatcggagat  
 240  
 aaatttgcca gtcgccatgg gcagaagggc attttaagca gattgtggcc ggctgaggac  
 300  
 atgcctttta ctgagagtgg gatgggtcca gacattctgt tcaatccca tggttttcca  
 360  
 tcccgcatga ccattgggat gtttaattgag agtatggccg ggaagtctgc agctttgcat  
 420  
 ggtctctgcc atgatgctac acccttcac ttctcagagg agaactcggc cttagaatac  
 480  
 tttggtgaga tgtaaaggc tgctggctac aatttctatg gcaccgagag gttatatagt  
 540  
 ggcacagtg ggctagaact ggaagcagac atcttcatag gagtggttta ttatcagcgc  
 600  
 ttacgccata tgggtctcaga caaatttcaa gtaaggacaa ctggagcccg agacagagtc  
 660  
 accaaccagc ctattggggg aagaaatgtc caggggtggaa tccgttttgg ggagatggaa  
 720  
 cgggatgcgc ttttagctca tgggtacatc tttctcctc atgaccgcct cttcaactgc  
 780  
 tcagatcggg cggtagccca tgtgtgtgtg aagtgtggca gtttactctc tccactgttg  
 840  
 gagaagccac ccccttcttg gtctgccatg cgcaacagaa aatacaactg tactctgtgt  
 900  
 agtcgcagtg acactatcga tactgtttct gtgccttatg ttttccgta tttttagct  
 960  
 gaactggcag ctatgaacat caaagtgaat ctggatgttg ttttaactga tgttgacctt  
 1020  
 ttggattaag aggactatca gattaaagca aaatgtaatt ttaattcaat gaagatatca  
 1080  
 ttaccagggt actcttgaga tttttcaacg gtgttagaac tctcaaccaa gacctgaaaa  
 1140  
 ccaagtatgc aaggtttctg aatctctctg gtagattaac tattgacaat gattttctgt  
 1200



tatctttggt caaaaagttc atgtcttctc aaaatatgaa atattgataa atggaagagc  
 1260  
 atacggtgac aagtctcctt tccaacccca ggttcctac accctgctct cagcaggcag  
 1320  
 tgagtgtcac acacctgtta atccatcttg agcaggacag tactatacaa atagaatgca  
 1380  
 agctgtaatg taattttata ttttcttata gccacgttga agtaaaaaca aacagggtaca  
 1440  
 gtgtttttta ccagctttat agaagtacag ttgttacata ttaaatgaat acaatttgat  
 1500  
 gggctcgact atatgcacac acctttgata ccatcaccac aatcagggtg ataaacatac  
 1560  
 ctgtcatctc caaaaaaaaa aaaaaaaaaa a  
 1591

<210> 3894

<211> 334

<212> PRT

<213> Homo sapiens

<400> 3894

Arg	Val	Leu	Gln	Lys	Leu	Asp	Asp	Asp	Gly	Leu	Pro	Phe	Ile	Gly	Ala
1				5					10					15	
Lys	Leu	Gln	Tyr	Gly	Asp	Pro	Tyr	Tyr	Ser	Tyr	Leu	Asn	Leu	Asn	Thr
		20						25					30		
Gly	Glu	Ser	Phe	Val	Met	Tyr	Tyr	Lys	Ser	Lys	Glu	Asn	Cys	Val	Val
		35					40					45			
Asp	Asn	Ile	Lys	Val	Cys	Ser	Asn	Asp	Thr	Gly	Ser	Gly	Lys	Phe	Lys
	50					55					60				
Cys	Val	Cys	Ile	Thr	Met	Arg	Val	Pro	Arg	Asn	Pro	Thr	Ile	Gly	Asp
65					70					75				80	
Lys	Phe	Ala	Ser	Arg	His	Gly	Gln	Lys	Gly	Ile	Leu	Ser	Arg	Leu	Trp
			85						90					95	
Pro	Ala	Glu	Asp	Met	Pro	Phe	Thr	Glu	Ser	Gly	Met	Val	Pro	Asp	Ile
			100					105					110		
Leu	Phe	Asn	Pro	His	Gly	Phe	Pro	Ser	Arg	Met	Thr	Ile	Gly	Met	Leu
		115					120					125			
Ile	Glu	Ser	Met	Ala	Gly	Lys	Ser	Ala	Ala	Leu	His	Gly	Leu	Cys	His
	130					135					140				
Asp	Ala	Thr	Pro	Phe	Ile	Phe	Ser	Glu	Glu	Asn	Ser	Ala	Leu	Glu	Tyr
145					150					155				160	
Phe	Gly	Glu	Met	Leu	Lys	Ala	Ala	Gly	Tyr	Asn	Phe	Tyr	Gly	Thr	Glu
			165					170						175	
Arg	Leu	Tyr	Ser	Gly	Ile	Ser	Gly	Leu	Glu	Leu	Glu	Ala	Asp	Ile	Phe
		180					185						190		
Ile	Gly	Val	Val	Tyr	Tyr	Gln	Arg	Leu	Arg	His	Met	Val	Ser	Asp	Lys
		195					200					205			
Phe	Gln	Val	Arg	Thr	Thr	Gly	Ala	Arg	Asp	Arg	Val	Thr	Asn	Gln	Pro
	210					215					220				
Ile	Gly	Gly	Arg	Asn	Val	Gln	Gly	Gly	Ile	Arg	Phe	Gly	Glu	Met	Glu
225				230						235				240	
Arg	Asp	Ala	Leu	Leu	Ala	His	Gly	Thr	Ser	Phe	Leu	Leu	His	Asp	Arg
			245						250					255	
Leu	Phe	Asn	Cys	Ser	Asp	Arg	Ser	Val	Ala	His	Val	Cys	Val	Lys	Cys

<400> 3895  
aagacttttgc gagtggtagt ctatgaagaa gaggaagagg atggcaccct gaaacagcac  
60  
aaagaagcca agcgcttcga aatcgctagg tctcaacctg aagacacccc tgaaaacaca  
120  
gtgaggagggc aagagcagcc cagcattgag agtacatctc cgatttcaag aactgatgaa  
180  
attagaaaaa acacctacag aacattggat agcctggagc agaccattaa acagctcgaa  
240  
aatacaatca gtgaaatgag tcccaaagcc ctagtgtgata cctcatgttc ttccaacaga  
300  
gattctgttg caagttcatc ccacatagcc caagaggcct ctccccgacc cttgctagtt  
360  
ccgatgaag gtcccaactgc cctagagccc cctacgtcga taccttcagc ttcacgtaag  
420  
ggctccagcg gggccccaca gacgagcagg atgcctgtcc ccatgagtgc caagaacaga  
480  
cccggaaacc tggacaaacc cggcaagcag tccaaactgc aggatccccg ccaatatcgt  
540  
caggctaattg gaagtgctaa gaaatctggg ggggacttta agcctacttc cccctcctta  
600  
cctgtctcta agattccagc cctttctccc agctctggga aaagcagttc tctgcccctc  
660  
tctagtggtg acagctctaa cctccctaatt ccacctgcta ctaaaccatc gattgcttct  
720  
aaccctctca gccccaaaac aggaccacct gctcaactctg cctccctcat cccttctgtc  
780  
tctaattggct ctttgaagtt tcagagcctc actcatacag gtaaagggtca ccattcttca  
840  
ttctcaccgc agagtcaaaa tggccgagca cccctcctt tgtcattttc ctccctccct  
900  
ccttctcctg cctcctccgt ctcaactgaat caagggtgcc aagggcaccag gaccatccat  
960  
actcccagcc tcaccagcta caaggcacag aatggaagtt caagcaaagc caccatcc  
1020  
acagcaaaaag aaacctctta aagggtcaaat cctattaggc acaagtcgga gttacattta  
1080  
aaaaaaatta acagtctaca acaactgttt tcacaagaga atgtaacata ttgctgtatc  
1140

gtttgaggct taatgctaaa tatgtgctaa atactggatt aatagatttc agtaaagctc  
1200

gttcaaaaaa aaaaaaaaaa aaaaaaa  
1227

<210> 3896

<211> 346

<212> PRT

<213> Homo sapiens

<400> 3896

Lys	Thr	Leu	Arg	Val	Val	Tyr	Glu	Glu	Glu	Glu	Glu	Asp	Gly	Thr
1				5				10					15	
Leu	Lys	Gln	His	Lys	Glu	Ala	Lys	Arg	Phe	Glu	Ile	Ala	Arg	Ser
			20					25					30	Gln
Pro	Glu	Asp	Thr	Pro	Glu	Asn	Thr	Val	Arg	Arg	Gln	Glu	Gln	Pro
		35					40					45		Ser
Ile	Glu	Ser	Thr	Ser	Pro	Ile	Ser	Arg	Thr	Asp	Glu	Ile	Arg	Lys
	50					55					60			Asn
Thr	Tyr	Arg	Thr	Leu	Asp	Ser	Leu	Glu	Gln	Thr	Ile	Lys	Gln	Leu
65					70					75				80
Asn	Thr	Ile	Ser	Glu	Met	Ser	Pro	Lys	Ala	Leu	Val	Asp	Thr	Ser
				85					90					95
Ser	Ser	Asn	Arg	Asp	Ser	Val	Ala	Ser	Ser	Ser	His	Ile	Ala	Gln
			100					105					110	Glu
Ala	Ser	Pro	Arg	Pro	Leu	Leu	Val	Pro	Asp	Glu	Gly	Pro	Thr	Ala
		115					120					125		Leu
Glu	Pro	Pro	Thr	Ser	Ile	Pro	Ser	Ala	Ser	Arg	Lys	Gly	Ser	Ser
	130					135					140			Gly
Ala	Pro	Gln	Thr	Ser	Arg	Met	Pro	Val	Pro	Met	Ser	Ala	Lys	Asn
145					150					155				160
Pro	Gly	Thr	Leu	Asp	Lys	Pro	Gly	Lys	Gln	Ser	Lys	Leu	Gln	Asp
			165						170					175
Arg	Gln	Tyr	Arg	Gln	Ala	Asn	Gly	Ser	Ala	Lys	Lys	Ser	Gly	Gly
			180				185						190	Asp
Phe	Lys	Pro	Thr	Ser	Pro	Ser	Leu	Pro	Ala	Ser	Lys	Ile	Pro	Ala
		195					200					205		Leu
Ser	Pro	Ser	Ser	Gly	Lys	Ser	Ser	Ser	Leu	Pro	Ser	Ser	Ser	Gly
	210					215					220			Asp
Ser	Ser	Asn	Leu	Pro	Asn	Pro	Pro	Ala	Thr	Lys	Pro	Ser	Ile	Ala
225					230					235				240
Asn	Pro	Leu	Ser	Pro	Gln	Thr	Gly	Pro	Pro	Ala	His	Ser	Ala	Ser
			245						250					255
Ile	Pro	Ser	Val	Ser	Asn	Gly	Ser	Leu	Lys	Phe	Gln	Ser	Leu	Thr
			260				265						270	His
Thr	Gly	Lys	Gly	His	His	Leu	Ser	Phe	Ser	Pro	Gln	Ser	Gln	Asn
		275					280					285		Gly
Arg	Ala	Pro	Pro	Pro	Leu	Ser	Phe	Ser	Ser	Ser	Pro	Pro	Ser	Pro
	290					295					300			Ala
Ser	Ser	Val	Ser	Leu	Asn	Gln	Gly	Ala	Lys	Gly	Thr	Arg	Thr	Ile
305					310					315				320
Thr	Pro	Ser	Leu	Thr	Ser	Tyr	Lys	Ala	Gln	Asn	Gly	Ser	Ser	Ser
			325						330					Lys
Ala	Thr	Pro	Ser	Thr	Ala	Lys	Glu	Thr	Ser					

340

345

&lt;210&gt; 3897

&lt;211&gt; 366

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3897

gacctgtggt ccggtccaga ccagggtag gcatggagga ggctctgcac agccatttgc  
 60  
 agctcagcca gcaccgggtg atggcagga ggcctgggct tctgcactgg cttctggcct  
 120  
 cttctgggca cccacgcttt gtccatgaat ggaaagcaat gctgacggct gcccattgtg  
 180  
 tccaggacgt ttctgaaact cctgttcctc tccccgtccc tctctctgtc cactgtcca  
 240  
 cctcagtac ctcctctctt cgtggctctc acccacact ctgccactgc cacattttcc  
 300  
 tctgcgcca gcctctgcct ccacctgaaa ctttctgga aatctcaaaa tgtaattcca  
 360  
 ggtccc  
 366

&lt;210&gt; 3898

&lt;211&gt; 111

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3898

Met	Glu	Glu	Ala	Leu	His	Ser	His	Leu	Gln	Leu	Ser	Gln	His	Arg	Val
1				5				10					15		
Met	Ala	Gly	Arg	Pro	Gly	Leu	Leu	His	Trp	Leu	Leu	Ala	Ser	Ser	Gly
			20					25					30		
His	Pro	Arg	Phe	Val	His	Glu	Trp	Lys	Ala	Met	Leu	Thr	Ala	Ala	Gln
			35				40					45			
Cys	Val	Gln	Asp	Val	Ser	Glu	Thr	Pro	Val	Pro	Leu	Pro	Val	Pro	Leu
			50				55					60			
Ser	Val	Pro	Leu	Ser	Thr	Ser	Val	Thr	Ser	Ser	Leu	Arg	Gly	Ser	His
			65				70				75				80
Pro	Thr	Leu	Cys	His	Cys	His	Ile	Phe	Leu	Cys	Ala	Gln	Pro	Leu	Pro
			85				90							95	
Pro	Pro	Glu	Thr	Phe	Leu	Glu	Ile	Ser	Lys	Cys	Asn	Ser	Arg	Ser	
			100				105						110		

&lt;210&gt; 3899

&lt;211&gt; 1092

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3899

ngaaacggta accagccctg ggaagcccg cagagggctc agcgggtggc gtccgagcgc  
 60  
 cgagaggtga ggggtgcccc gcctcacctg cagaggggccc gttccgggct cgaaccgggc  
 120

accttccgga aaatggcggc tgccaggccc agcctgggcc gagtcctccc aggatcctct  
 180  
 gtccctgttcc tgtgtgacat gcaggagaag ttccgccaca acatcgcccta cttcccacag  
 240  
 atcgtctcag tggctgcccc catgctcaag gtggccccgc tgcttgaggt gccagtcagt  
 300  
 ctgacggagc agtaccaca aggcctgggc ccacagggtc ccgagctggg gactngaggg  
 360  
 ccttcggccg ctggccaaga cctgcttcag catgggtgcct gcctgcagca ggagctggac  
 420  
 agtcggcccc agctgcgctc tgtgctgctc tgtggcattg aggcacaggc ctgcatcttg  
 480  
 aacacgaccc tggacctcct agaccggggg ctgcagggtcc atgtggtggt ggacgcctgc  
 540  
 tcctcacgca gccaggtgga cgggctggtg gctctggccc gcatgagaca gagtggtgcc  
 600  
 ttctctcca ccagcgaagg gctcattctg cagcttggtg gcgatgccgt ccacccccag  
 660  
 ttcaaggaga tccagaaact catcaaggag cccgccccag acagcggact gctgggcctc  
 720  
 ttccaaggcc agaactccct cctccactga actccaaccc tgccttgagg gaagaccacc  
 780  
 ctctgtcac ccggacctca gtggaagccc gttcccccca tcctggatc ccaagagtgg  
 840  
 tgcgatccac caggagtgcc gcccccttgt gggggggggc aggggtgctgc cttcccattg  
 900  
 gacagctgct cccggaaatg caaatgagac tcctggaaac tgggtgggaa ttggctgagc  
 960  
 caagatggag gcggggctcg gccccgggcc acttcacggg gcgggaaggg gaggggaaga  
 1020  
 agagtctcag actgtgggac acggactcgc agaataaaca tatatgtggc tgtgaaaaaa  
 1080  
 aaaaaaaaaa aa  
 1092

<210> 3900

<211> 249

<212> PRT

<213> Homo sapiens

<400> 3900

Xaa	Asn	Gly	Asn	Gln	Pro	Trp	Glu	Ala	Arg	Lys	Arg	Pro	Gln	Arg	Trp
1			5						10				15		
Pro	Ser	Glu	Arg	Arg	Glu	Val	Arg	Val	Pro	Pro	His	Leu	Gln	Arg	
			20					25				30			
Gly	Arg	Ser	Gly	Leu	Glu	Pro	Gly	Thr	Phe	Arg	Lys	Met	Ala	Ala	Ala
			35				40				45				
Arg	Pro	Ser	Leu	Gly	Arg	Val	Leu	Pro	Gly	Ser	Ser	Val	Leu	Phe	Leu
			50			55				60					
Cys	Asp	Met	Gln	Glu	Lys	Phe	Arg	His	Asn	Ile	Ala	Tyr	Phe	Pro	Gln
65					70					75				80	
Ile	Val	Ser	Val	Ala	Ala	Arg	Met	Leu	Lys	Val	Ala	Arg	Leu	Leu	Glu
				85				90					95		
Val	Pro	Val	Met	Leu	Thr	Glu	Gln	Tyr	Pro	Gln	Gly	Leu	Gly	Pro	Thr

100	105	110
Val Pro Glu Leu Gly Thr Xaa Gly Pro Ser Ala Ala Gly Gln Asp Leu		
115	120	125
Leu Gln His Gly Ala Cys Leu Gln Gln Glu Leu Asp Ser Arg Pro Gln		
130	135	140
Leu Arg Ser Val Leu Leu Cys Gly Ile Glu Ala Gln Ala Cys Ile Leu		
145	150	155
Asn Thr Thr Leu Asp Leu Leu Asp Arg Gly Leu Gln Val His Val Val		
165	170	175
Val Asp Ala Cys Ser Ser Arg Ser Gln Val Asp Arg Leu Val Ala Leu		
180	185	190
Ala Arg Met Arg Gln Ser Gly Ala Phe Leu Ser Thr Ser Glu Gly Leu		
195	200	205
Ile Leu Gln Leu Val Gly Asp Ala Val His Pro Gln Phe Lys Glu Ile		
210	215	220
Gln Lys Leu Ile Lys Glu Pro Ala Pro Asp Ser Gly Leu Leu Gly Leu		
225	230	235
Phe Gln Gly Gln Asn Ser Leu Leu His		240
245		

&lt;210&gt; 3901

&lt;211&gt; 1287

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3901

```

nncctagggg aggtgggcgg ggagctgggg acagatggcc ttggtttggg agcatagcct
60
ctgatcagca tctctgtgtt tggacagaac ctgctgggac tacagaacat cccagggcgg
120
ttcttctctgc aggtgtacca caccttctc aggattgcag agaccagggt aggtgacgcc
180
gtcctggggc tggctctgcat gctgctgctg ctggtgctga agctgatgcg ggaccacgtg
240
cctcccgtcc accccgagat gcccctgggt gtgcggtcga gccgtgggct ggtctgggct
300
gccacgacag ctgcgaacgc cctgggtggtc tccttcgcag ccctggttgc gtactccttc
360
gaggtgactg gataccagcc ttctcctcta acaggggaga cagctgaggg gtcctcctca
420
gtccggatcc cgcccttctc agtgaccaca gccaacggga cgatctcctt caccgagatg
480
gtgcaggaca tgggagccgg gctggccgtg gtgcccctga tgggcctcct ggagagcatt
540
gcggtggcca aagccttcgc atctcagaat aattaccgca tcgatgccaa ccaggagctg
600
ctggccatcg gtctcacaa catgttgggc tcctctgtct cctcctaccc ggtcacaggc
660
agctttggac ggacagccgt gaacgctcag tcgggggtgt gcaccccggc ggggggcctg
720
gtgacgggag tgctggtgct gctgtctctg gactacctga cctcactgtt ctactacatc
780
ccaagtctg cctggtctgc cgatcatc atggccgtgg ccccgctgtt cgacaccaag
840

```

atcttcagga cgctctggcg tgttaagagg ctggacctgc tgcccctgtg cgtgaccttc  
 900  
 ctgctgtgct tctgggaggt gcagtacggc atcctggccg gggccctggt gtctctgtgc  
 960  
 atgtcctgc actctgcagc caggcctgag accaaggtgt cagaggggccc ggttctggtc  
 1020  
 ctgcagccgg ccagcggcct gtccttcctt gtcctctgcc cccactccc tgcgtttcag  
 1080  
 gacccaaga ccctgtcccc gacgtctctc agtcacaaag gatgcaggca tctctgagtg  
 1140  
 ggctggaccg tcctctgtgg gcctcagcca gtggtgctgc agcaagggtg gtggctcccc  
 1200  
 acatatcact ccttccttgc cctaaagtc cggttcctgt ttctgggggg ttgatttttag  
 1260  
 gggagctaag ggctgtgag tcctagt  
 1287

<210> 3902

<211> 312

<212> PRT

<213> Homo sapiens

<400> 3902

Met	Leu	Leu	Leu	Val	Leu	Lys	Leu	Met	Arg	Asp	His	Val	Pro	Pro
1				5				10					15	
Val	His	Pro	Glu	Met	Pro	Pro	Gly	Val	Arg	Leu	Ser	Arg	Gly	Leu
			20					25				30		Val
Trp	Ala	Ala	Thr	Thr	Ala	Arg	Asn	Ala	Leu	Val	Val	Ser	Phe	Ala
		35					40					45		Ala
Leu	Val	Ala	Tyr	Ser	Phe	Glu	Val	Thr	Gly	Tyr	Gln	Pro	Phe	Ile
		50				55					60			Leu
Thr	Gly	Glu	Thr	Ala	Glu	Gly	Leu	Pro	Pro	Val	Arg	Ile	Pro	Pro
65					70					75				80
Ser	Val	Thr	Thr	Ala	Asn	Gly	Thr	Ile	Ser	Phe	Thr	Glu	Met	Val
				85						90				95
Asp	Met	Gly	Ala	Gly	Leu	Ala	Val	Val	Pro	Leu	Met	Gly	Leu	Leu
			100						105				110	Glu
Ser	Ile	Ala	Val	Ala	Lys	Ala	Phe	Ala	Ser	Gln	Asn	Asn	Tyr	Arg
		115					120					125		Ile
Asp	Ala	Asn	Gln	Glu	Leu	Leu	Ala	Ile	Gly	Leu	Thr	Asn	Met	Leu
		130				135					140			Gly
Ser	Leu	Val	Ser	Ser	Tyr	Pro	Val	Thr	Gly	Ser	Phe	Gly	Arg	Thr
145					150					155				160
Val	Asn	Ala	Gln	Ser	Gly	Val	Cys	Thr	Pro	Ala	Gly	Gly	Leu	Val
				165						170				175
Gly	Val	Leu	Val	Leu	Leu	Ser	Leu	Asp	Tyr	Leu	Thr	Ser	Leu	Phe
			180					185					190	Tyr
Tyr	Ile	Pro	Lys	Ser	Ala	Leu	Ala	Ala	Val	Ile	Ile	Met	Ala	Val
		195					200					205		Ala
Pro	Leu	Phe	Asp	Thr	Lys	Ile	Phe	Arg	Thr	Leu	Trp	Arg	Val	Lys
		210				215					220			Arg
Leu	Asp	Leu	Leu	Pro	Leu	Cys	Val	Thr	Phe	Leu	Leu	Cys	Phe	Trp
				225						235				240
Val	Gln	Tyr	Gly	Ile	Leu	Ala	Gly	Ala	Leu	Val	Ser	Leu	Leu	Met
														Leu

3048



```

      85              90              95
Leu Leu Pro Cys Leu Lys Ala Cys Ala Pro Ser Arg Val Val Val Val
      100              105              110
Ala Ser Ala Ala His Cys Arg Gly Arg Leu Asp Phe Lys Arg Leu Asp
      115              120              125
Arg Pro Val Val Leu Ala Ala Gly Ala Ala Ala Tyr Ala Asp Thr Lys
      130              135              140
Leu Ala Asn Val Leu Phe Ala Arg Glu Leu Ala Asn Gln Leu Glu Ala
      145              150              155              160
Thr Gly Val Thr Cys Tyr Ala Ala His Pro Gly Pro Val Asn Ser Glu
      165              170              175
Leu Phe Leu Arg His Val Pro Gly Trp Leu Arg Pro Leu Leu Arg Pro
      180              185              190
Leu Ala Trp Leu Val Pro Arg
      195

```

&lt;210&gt; 3905

&lt;211&gt; 370

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3905

```

ggatcctctg agctgcgctc ggccttctcg gcggcacgca ccacccccct ggagggcacg
60
tcggagatgg cgggtgacctt cgacaagggtg tacgtgaaca tcggggggcga cttcgatgtg
120
gccaccggcc agtttcgctg ccgcgtgccc ggcgcctact tcttctcctt cacggctggc
180
aaggccccgc acaagagccc gtcggtgatg ctggtgcgaa accgcgacga ggtgcaggcg
240
ctggccttcg acgagcagcg gcggccaggc gcgcggcgcg cagccagcca gagcgccatg
300
ctgcagctcg actacggcga cacagtgtgg ctgcggctgc atggcgcccc gcagtagcgcg
360
ctaggcgcg
370

```

&lt;210&gt; 3906

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3906

```

Gly Ser Ser Glu Leu Arg Ser Ala Phe Ser Ala Ala Arg Thr Thr Pro
1      5      10      15
Leu Glu Gly Thr Ser Glu Met Ala Val Thr Phe Asp Lys Val Tyr Val
      20      25      30
Asn Ile Gly Gly Asp Phe Asp Val Ala Thr Gly Gln Phe Arg Cys Arg
      35      40      45
Val Pro Gly Ala Tyr Phe Phe Ser Phe Thr Ala Gly Lys Ala Pro His
      50      55      60
Lys Ser Pro Ser Val Met Leu Val Arg Asn Arg Asp Glu Val Gln Ala
65      70      75      80
Leu Ala Phe Asp Glu Gln Arg Arg Pro Gly Ala Arg Arg Ala Ala Ser

```

	85		90		95
Gln Ser Ala Met Leu Gln Leu Asp Tyr Gly Asp Thr Val Trp Leu Arg					
	100		105		110
Leu His Gly Ala Pro Gln Tyr Ala Leu Gly Ala					
	115		120		

&lt;210&gt; 3907

&lt;211&gt; 4474

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3907

gcgcgccgga accggaaccg acctgcgccg gaaccggaac ggagagcggg ttgccagggc  
60

ccgaagaggg ctggctgcgg cggctctcgt cggctgtccg ttccttgctg gagaatttgg  
120

ccacaaagag ctgccaagat agctgggcca ggaagaaagc gccgcagccc tgaccagac  
180

gctgttgccg accccggggc actctggctg tgcaccaagc ggctcaagat gtctggcggg  
240

gccagtcca caggcccaag gagaggggccc ccaggactgg aggacaccac tagtaagaag  
300

aagcagaagg atcgagcaaa ccaggagagc aaggatggag atcctaggaa agagacaggg  
360

tctcgatatg ttgccaggc tggctctgaa cctctggcct caggatgatcc ttctgcctca  
420

gcctcccatg cagctgggat cacaggetca cgccaccgta cccggctgtt ctttcttca  
480

tcgtcagggt cagcatccac tcctcaagag gagcagacca aagaggagc ttgtgaagac  
540

cctcatgac tcttggtac tcccactcca gagttgttg tgcattggag gcagagtga  
600

gaagagggtga ttgtcaagct tcgtgtggga gtaggtcccc tgcagctgga ggatgtagat  
660

gctgctttca cagatacaga ctgtgtggtg cggtttgag gtggtcagca gtgggggtgt  
720

gtcttctatg ctgagataaa aagctcttgt gctaaagtgc aaaccgcaa gggcagtctc  
780

ctgcacctga cactgccc aaagggtcct atgctcacgt ggccctccct cctggttgag  
840

gctgatgaac agctttgcat accaccgtg aactccaaa cctgcctcct gggctcagag  
900

gagaatttag cccctttggc aggagagaaa gcagtgcctc cggggaatga cccagtctct  
960

ccagccatgg tccggagcag aaaccctggg aaagatgact gtgccaagga ggagatggca  
1020

gtggcagcag atgctgcaac cttggtggat ggtaaagagc ccgagtcgat ggtgaacctg  
1080

gcgtttgtca agaagactc gtatgagaag ggcccgatt cagtgggtgt gcacgtgtac  
1140

gtgaaggaga tctgcaggga cacctcaaga gtacttttcc gtgagcagga cttcacgctc  
1200

atcttccaga ccagggtatg aaacttcctg aggtgcacc cgggtgtgtg gccccacacc  
1260

accttccggtt ggcaggtgaa gctcaggaat ctgattgagc cagagcagtg caccttctgt  
1320  
ttcacggctt ctgcgcatcga catctgcctt cgtaagaggc agagtcagcg ctgggggggc  
1380  
ctggaggccc cggtgcacg agtgggtggt gcaaagggtg ccgtgccgac aggtccaacc  
1440  
cctctggatt caacccacc aggaggtgct cccaccccc tgacaggcca ggaggaggcc  
1500  
cgggctgtgg agaaggataa atccaaggca cgatctgagg acacagggt agacagtgtg  
1560  
gcaacccgca ccccatgga gcatgtaacc ccaaagccag agacacacct ggctcgcgc  
1620  
aagcctacat gcatggtgcc tcccatgccc cacagcccag ttagtgagga cagcgtggag  
1680  
gaggaggaag aggaagagaa gaagggtgtg ctgccaggct tcaactggcct tgtcaattta  
1740  
ggcaacacct gcttcatgaa cagcgtcatt cagtctctgt ccaacactcg ggaactccgg  
1800  
gacttcttcc atgaccgctc ctttgaggct gagatcaact acaacaacc actagggact  
1860  
ggtgggcgtc tggccattgg ctttgccgtg ctgcttcggg cgctgtggaa gggcacccac  
1920  
catgccttcc agccttccaa gttgaaggcc attgtggcga gtaaggccag ccagttcaca  
1980  
ggctatgcac agcatgatgc ccaggagttc atggcttcc tgcgtgatgg gctgcacgag  
2040  
gacctgaatc gcattcagaa caagccctac acagagaccg tggattcaga tgggcggccc  
2100  
gatgaggtgg tagctgagga agcatggcag cggcacaaga tgaggaatga ctctttcatc  
2160  
gtggacctat ttcaggggca gtacaagtcg aagctggtgt gccctgtgtg tgccaaggtc  
2220  
tccatcactt ttgaccggt tctttatctg ccggtgccct tgccacaaa gcaaaagggt  
2280  
ctccctgtct tttattttgc ccgagagccc cacagcaagc ccatcaagtt cctggtgagc  
2340  
gtcagcaagg agaactccac tgcgagcgaa gtattggact ccctctctca gagtgttcat  
2400  
gtgaagcctg agaacctgcg tttggcggag gtaattaaga atcgttttca tcgtgtgttc  
2460  
ctaccctccc actcactgga cactgtgtcc ccatctgata cgctcctctg ctttgagctg  
2520  
ctatcctcag agttggctaa ggagcgggta gtggtgctag aggtgcaaca gcgccccag  
2580  
gtgccagcg tccccatctc caagtgtgca gcctgccagc ggaagcaaca gtcggaggat  
2640  
gaaaagctga agcgtgttac ccggtgctac cgtgtgggct actgcaacca gctctgccag  
2700  
aaaacccact ggctgacca caagggcctc tgccgacctg agaacattgg ctacccttc  
2760  
ctggtcagtg tacctgcctc acgcctcact tatgcccgc tcgctcagtt gctagagggc  
2820  
tatgcccggc actctgtgag tgtattccag ccacccttc aaccaggccg catggccttg  
2880

gagtctcaga gccctggctg caccacactg ctctccacag gttccctgga ggctggggac  
2940  
agcgagagag accccattca gccacctgag ctccagctgg tgaccctat ggctgagggg  
3000  
gacacagggc ttccccgggt gtgggcagcc cctgaccggg gtcctgtgcc cagcaccagt  
3060  
ggaatttctt ctgagatgct ggccagtggg cccattgagg ttggctcctt gccagctggc  
3120  
gagaggggtgt cccgaccega agctgctgtg cctgggtacc agcatccaag tgaagctatg  
3180  
aatgccaca caccacagtt cttcatctat aaaattgatt catccaaccg agagcagcgg  
3240  
ctagaggaca aaggagacac cccactggag ctgggtgacg actgtagcct ggctctcgtc  
3300  
tgggcgaaca atgagcgctt gcaggagttt gtgttggtag cctccaagga gctggaatgt  
3360  
gctgaggatc caggctctgc cggtagaggc gcccgggccg gccacttcac cctggaccag  
3420  
tgctcaacc tcttcacacg gcctgaggtg ctggcaccg aggaggcctg gtactgccc  
3480  
cagtgc aaac agcaccgtga ggctccaag cagctgttgc tatggcgctt gccaaatgtt  
3540  
ctcatcgtgc agctcaagcg cttctccttt cgtagtttta tctggcgtga caagatcaat  
3600  
gacttggtgg agttccctgt taggaacctg gacctgagca agttctgcat tggtcagaaa  
3660  
gaggagcagc tgcccagcta cgatctatat gctgtcatca accactatgg aggcatgatt  
3720  
ggtggccact aactgcctg tgcacgcctg ccaatgatc gtagcagtca gcgcagtgc  
3780  
gtgggctggc gcttgtttga tgacagcaca gtgacaacgg tagacgagag ccaggttgtg  
3840  
acgcgttatg cctatgtact cttctaccgc cggcggaact ctctgtgga gaggcccccc  
3900  
agggcaggtc actctgagca ccaccagac ctaggccctg cagctgaggc tgctgccagc  
3960  
caggcttccc ggatttgga ggagctggag gctgaggagg agccggtgcc tgaggggtct  
4020  
ggggccctgg gtccctgggg gccccaagac tgggtgggccc ccctaccacg tggccctacc  
4080  
acaccagatg agggctgcct ccggtacttt gtccctgggca ccgtggcggc tttggtggcc  
4140  
ctcgtgctca acgtgttcta tcctctggta tcccagagtc gctggagatg agctcgccctg  
4200  
caggcagctg ctgtgagctg gcctacctgc ctgccccagg ccatgcctgc ctttgttgtg  
4260  
gggaacacct ctgggctttg ggctcagct tatgcatctg gtgggagagg gtggggaggt  
4320  
tgtggccct gcaggggcag agtatactag ggtgtgtatc catctggctg tctgtccatt  
4380  
catcctgctg ctctgacctg tggcctcagg cttggccctg cccaagctac ttcctgtact  
4440  
taaaagtgtt aataaaacca gactattcag gccc  
4474

&lt;210&gt; 3908

&lt;211&gt; 1373

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3908

Ala Gly Cys Gly Gly Leu Ala Arg Leu Ser Val Pro Cys Trp Arg Ile  
 1 5 10 15  
 Trp Pro Gln Arg Ala Ala Lys Ile Ala Gly Pro Gly Arg Lys Arg Arg  
 20 25 30  
 Ser Pro Asp Pro Asp Ala Val Ala Asp Pro Gly Ala Leu Trp Leu Ser  
 35 40 45  
 Thr Lys Arg Leu Lys Met Ser Gly Gly Ala Ser Ala Thr Gly Pro Arg  
 50 55 60  
 Arg Gly Pro Pro Gly Leu Glu Asp Thr Thr Ser Lys Lys Lys Gln Lys  
 65 70 75 80  
 Asp Arg Ala Asn Gln Glu Ser Lys Asp Gly Asp Pro Arg Lys Glu Thr  
 85 90 95  
 Gly Ser Arg Tyr Val Ala Gln Ala Gly Leu Glu Pro Leu Ala Ser Gly  
 100 105 110  
 Asp Pro Ser Ala Ser Ala Ser His Ala Ala Gly Ile Thr Gly Ser Arg  
 115 120 125  
 His Arg Thr Arg Leu Phe Phe Pro Ser Ser Ser Gly Ser Ala Ser Thr  
 130 135 140  
 Pro Gln Glu Glu Gln Thr Lys Glu Gly Ala Cys Glu Asp Pro His Asp  
 145 150 155 160  
 Leu Leu Ala Thr Pro Thr Pro Glu Leu Leu Leu Asp Trp Arg Gln Ser  
 165 170 175  
 Ala Glu Glu Val Ile Val Lys Leu Arg Val Gly Val Gly Pro Leu Gln  
 180 185 190  
 Leu Glu Asp Val Asp Ala Ala Phe Thr Asp Thr Asp Cys Val Val Arg  
 195 200 205  
 Phe Ala Gly Gly Gln Gln Trp Gly Gly Val Phe Tyr Ala Glu Ile Lys  
 210 215 220  
 Ser Ser Cys Ala Lys Val Gln Thr Arg Lys Gly Ser Leu Leu His Leu  
 225 230 235 240  
 Thr Leu Pro Lys Lys Val Pro Met Leu Thr Trp Pro Ser Leu Leu Val  
 245 250 255  
 Glu Ala Asp Glu Gln Leu Cys Ile Pro Pro Leu Asn Ser Gln Thr Cys  
 260 265 270  
 Leu Leu Gly Ser Glu Glu Asn Leu Ala Pro Leu Ala Gly Glu Lys Ala  
 275 280 285  
 Val Pro Pro Gly Asn Asp Pro Val Ser Pro Ala Met Val Arg Ser Arg  
 290 295 300  
 Asn Pro Gly Lys Asp Asp Cys Ala Lys Glu Glu Met Ala Val Ala Ala  
 305 310 315 320  
 Asp Ala Ala Thr Leu Val Asp Gly Lys Glu Pro Glu Ser Met Val Asn  
 325 330 335  
 Leu Ala Phe Val Lys Asn Asp Ser Tyr Glu Lys Gly Pro Asp Ser Val  
 340 345 350  
 Val Val His Val Tyr Val Lys Glu Ile Cys Arg Asp Thr Ser Arg Val  
 355 360 365  
 Leu Phe Arg Glu Gln Asp Phe Thr Leu Ile Phe Gln Thr Arg Asp Gly

370	375	380
Asn Phe Leu Arg Leu His Pro Gly Cys Gly Pro His Thr Thr Phe Arg		
385	390	395
Trp Gln Val Lys Leu Arg Asn Leu Ile Glu Pro Glu Gln Cys Thr Phe		400
	405	410
Cys Phe Thr Ala Ser Arg Ile Asp Ile Cys Leu Arg Lys Arg Gln Ser		415
	420	425
Gln Arg Trp Gly Gly Leu Glu Ala Pro Ala Ala Arg Val Gly Gly Ala		430
	435	440
Lys Val Ala Val Pro Thr Gly Pro Thr Pro Leu Asp Ser Thr Pro Pro		445
	450	455
Gly Gly Ala Pro His Pro Leu Thr Gly Gln Glu Glu Ala Arg Ala Val		460
465	470	475
Glu Lys Asp Lys Ser Lys Ala Arg Ser Glu Asp Thr Gly Leu Asp Ser		480
	485	490
Val Ala Thr Arg Thr Pro Met Glu His Val Thr Pro Lys Pro Glu Thr		495
	500	505
His Leu Ala Ser Pro Lys Pro Thr Cys Met Val Pro Pro Met Pro His		510
	515	520
Ser Pro Val Ser Gly Asp Ser Val Glu Glu Glu Glu Glu Glu Glu Lys		525
	530	535
Lys Val Cys Leu Pro Gly Phe Thr Gly Leu Val Asn Leu Gly Asn Thr		540
545	550	555
Cys Phe Met Asn Ser Val Ile Gln Ser Leu Ser Asn Thr Arg Glu Leu		560
	565	570
Arg Asp Phe Phe His Asp Arg Ser Phe Glu Ala Glu Ile Asn Tyr Asn		575
	580	585
Asn Pro Leu Gly Thr Gly Gly Arg Leu Ala Ile Gly Phe Ala Val Leu		590
	595	600
Leu Arg Ala Leu Trp Lys Gly Thr His His Ala Phe Gln Pro Ser Lys		605
	610	615
Leu Lys Ala Ile Val Ala Ser Lys Ala Ser Gln Phe Thr Gly Tyr Ala		620
625	630	635
Gln His Asp Ala Gln Glu Phe Met Ala Phe Leu Leu Asp Gly Leu His		640
	645	650
Glu Asp Leu Asn Arg Ile Gln Asn Lys Pro Tyr Thr Glu Thr Val Asp		655
	660	665
Ser Asp Gly Arg Pro Asp Glu Val Val Ala Glu Glu Ala Trp Gln Arg		670
	675	680
His Lys Met Arg Asn Asp Ser Phe Ile Val Asp Leu Phe Gln Gly Gln		685
	690	695
Tyr Lys Ser Lys Leu Val Cys Pro Val Cys Ala Lys Val Ser Ile Thr		700
705	710	715
Phe Asp Pro Phe Leu Tyr Leu Pro Val Pro Leu Pro Gln Lys Gln Lys		720
	725	730
Val Leu Pro Val Phe Tyr Phe Ala Arg Glu Pro His Ser Lys Pro Ile		735
	740	745
Lys Phe Leu Val Ser Val Ser Lys Glu Asn Ser Thr Ala Ser Glu Val		750
	755	760
Leu Asp Ser Leu Ser Gln Ser Val His Val Lys Pro Glu Asn Leu Arg		765
	770	775
Leu Ala Glu Val Ile Lys Asn Arg Phe His Arg Val Phe Leu Pro Ser		780
785	790	795
His Ser Leu Asp Thr Val Ser Pro Ser Asp Thr Leu Leu Cys Phe Glu		800

805 810 815  
 Leu Leu Ser Ser Glu Leu Ala Lys Glu Arg Val Val Val Leu Glu Val  
 820 825 830  
 Gln Gln Arg Pro Gln Val Pro Ser Val Pro Ile Ser Lys Cys Ala Ala  
 835 840 845  
 Cys Gln Arg Lys Gln Gln Ser Glu Asp Glu Lys Leu Lys Arg Cys Thr  
 850 855 860  
 Arg Cys Tyr Arg Val Gly Tyr Cys Asn Gln Leu Cys Gln Lys Thr His  
 865 870 875 880  
 Trp Pro Asp His Lys Gly Leu Cys Arg Pro Glu Asn Ile Gly Tyr Pro  
 885 890 895  
 Phe Leu Val Ser Val Pro Ala Ser Arg Leu Thr Tyr Ala Arg Leu Ala  
 900 905 910  
 Gln Leu Leu Glu Gly Tyr Ala Arg Tyr Ser Val Ser Val Phe Gln Pro  
 915 920 925  
 Pro Phe Gln Pro Gly Arg Met Ala Leu Glu Ser Gln Ser Pro Gly Cys  
 930 935 940  
 Thr Thr Leu Leu Ser Thr Gly Ser Leu Glu Ala Gly Asp Ser Glu Arg  
 945 950 955 960  
 Asp Pro Ile Gln Pro Pro Glu Leu Gln Leu Val Thr Pro Met Ala Glu  
 965 970 975  
 Gly Asp Thr Gly Leu Pro Arg Val Trp Ala Ala Pro Asp Arg Gly Pro  
 980 985 990  
 Val Pro Ser Thr Ser Gly Ile Ser Ser Glu Met Leu Ala Ser Gly Pro  
 995 1000 1005  
 Ile Glu Val Gly Ser Leu Pro Ala Gly Glu Arg Val Ser Arg Pro Glu  
 1010 1015 1020  
 Ala Ala Val Pro Gly Tyr Gln His Pro Ser Glu Ala Met Asn Ala His  
 1025 1030 1035 1040  
 Thr Pro Gln Phe Phe Ile Tyr Lys Ile Asp Ser Ser Asn Arg Glu Gln  
 1045 1050 1055  
 Arg Leu Glu Asp Lys Gly Asp Thr Pro Leu Glu Leu Gly Asp Asp Cys  
 1060 1065 1070  
 Ser Leu Ala Leu Val Trp Arg Asn Asn Glu Arg Leu Gln Glu Phe Val  
 1075 1080 1085  
 Leu Val Ala Ser Lys Glu Leu Glu Cys Ala Glu Asp Pro Gly Ser Ala  
 1090 1095 1100  
 Gly Glu Ala Ala Arg Ala Gly His Phe Thr Leu Asp Gln Cys Leu Asn  
 1105 1110 1115 1120  
 Leu Phe Thr Arg Pro Glu Val Leu Ala Pro Glu Glu Ala Trp Tyr Cys  
 1125 1130 1135  
 Pro Gln Cys Lys Gln His Arg Glu Ala Ser Lys Gln Leu Leu Leu Trp  
 1140 1145 1150  
 Arg Leu Pro Asn Val Leu Ile Val Gln Leu Lys Arg Phe Ser Phe Arg  
 1155 1160 1165  
 Ser Phe Ile Trp Arg Asp Lys Ile Asn Asp Leu Val Glu Phe Pro Val  
 1170 1175 1180  
 Arg Asn Leu Asp Leu Ser Lys Phe Cys Ile Gly Gln Lys Glu Glu Gln  
 1185 1190 1195 1200  
 Leu Pro Ser Tyr Asp Leu Tyr Ala Val Ile Asn His Tyr Gly Gly Met  
 1205 1210 1215  
 Ile Gly Gly His Tyr Thr Ala Cys Ala Arg Leu Pro Asn Asp Arg Ser  
 1220 1225 1230  
 Ser Gln Arg Ser Asp Val Gly Trp Arg Leu Phe Asp Asp Ser Thr Val

1235	1240	1245
Thr Thr Val Asp Glu Ser Gln Val Val Thr Arg Tyr Ala Tyr Val Leu		
1250	1255	1260
Phe Tyr Arg Arg Arg Asn Ser Pro Val Glu Arg Pro Pro Arg Ala Gly		
1265	1270	1275
His Ser Glu His His Pro Asp Leu Gly Pro Ala Ala Glu Ala Ala Ala		1280
1285	1290	1295
Ser Gln Ala Ser Arg Ile Trp Gln Glu Leu Glu Ala Glu Glu Glu Pro		
1300	1305	1310
Val Pro Glu Gly Ser Gly Pro Leu Gly Pro Trp Gly Pro Gln Asp Trp		
1315	1320	1325
Val Gly Pro Leu Pro Arg Gly Pro Thr Thr Pro Asp Glu Gly Cys Leu		
1330	1335	1340
Arg Tyr Phe Val Leu Gly Thr Val Ala Ala Leu Val Ala Leu Val Leu		
1345	1350	1355
Asn Val Phe Tyr Pro Leu Val Ser Gln Ser Arg Trp Arg		1360
1365	1370	

&lt;210&gt; 3909

&lt;211&gt; 2704

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3909

caccttctct ggacactcat catatagtct atttttggcc caacttcttt tgaaagggcc  
 60  
 cattctttac ctcatttaga taaatcagat aggtctttct tgcttacttc attaacaact  
 120  
 caattaatta taaccacatc acatgaagat tagatgtaat taggacctgt ccaatgtctt  
 180  
 tacatcccag tccttctgta ctctaacct taagcaaatt ggtcgacctc tgtaggtcta  
 240  
 agtattctgt gtgtaacatg aaagctttga attaggccac gtttccggct aattttttaa  
 300  
 aaagtgtttg tgatcctgtg aattccataa cccaccacct tccttttcca actcttcacc  
 360  
 ttttaaatec actttccatc tctccagagg aaagggcatt gagagtagag gaagcaagtc  
 420  
 cctttcacta aagcagcctg gtttgaaaaa gccggtaatc tctgaactgt ctcttgcttg  
 480  
 aacaagaaaa actccctctg aaataccttt ttctccttgt gatagcaaca gaaaccaagc  
 540  
 agcaacagcc cttggaaaga ggctaaattt ttcttgactt ctgcagcaac aaagaccgtg  
 600  
 aaaagtggc acttctggcc taacgtgcc gtcacacctc ccctcacccc agggcaaccc  
 660  
 aggtggaca tttagtgcct ccctctttat tcctctgtga tcatccagat cagcacttga  
 720  
 ctgtttatct tcaaattctc cgaacctcac cccaagatct tcacattctg gatctcagct  
 780  
 gctcttgaag gacagtgact tgttaccacc gcaacagcag agcctgccat cccaacaga  
 840  
 tcacagttg tccctgacat cgtgccctac cttgtctccc tttgtggtct cctaaatgcc  
 900



catctcggtg gccttggttc ggctagtggg atggaggggt gctgcctagc actgacctga  
960  
gagtgtgtgt gacctactga cccaatggac atcaaaggcc agttctggaa tgatgacgac  
1020  
tcggaggag ataatgaatc agaggaattt ctctatggcg ttcaggggag ctgtgcagct  
1080  
gacctgtatc gacaccaca gcttgatgca gacattgaag cegtgaagga gatctacagt  
1140  
gagaactctg tatccatcag agaatatgga actatcgatg acgtggacat tgacctccac  
1200  
atcaacatca gcttctcoga tgaggaagtc tctacagcct ggaaggctct ccggacagaa  
1260  
cctattgtgt tgaggctgag attttctctc tcccagtacc tagatggacc agaaccatcc  
1320  
attgaggttt tccagccatc aaataaggaa ggatttgggc tgggtcttca gttgaaaaag  
1380  
atcctgggta tgtttacatc ccaacaatgg aaacatctga gcaatgattt cttgaagacc  
1440  
cagcaggaga agaggcacag ttggttcaag gcaagtggta ccatcaagaa gttccgagct  
1500  
ggcctcagca tcttttcacc catccccaag tctcccagtt tccctatcat acaggactcc  
1560  
atgctgaaaag gcaaactagg tgtaccagag cttcgggttg ggcgcctcat gaaccgttcc  
1620  
atctcctgta ccatgaataa ccccaaagtg gaagtgtttg gctaccctcc cagccccag  
1680  
gtcagtggtc actgcaagaa cattccact ctggagtatg gattcctcgt tcagatcatg  
1740  
aagtatgcag aacagaggat tccaacattg aatgagtact gtgtggtgtg tgatgagcag  
1800  
catgtcttcc aaaatggatc tatgctgaag ccagctgtct gtactcgtga actatgcgtt  
1860  
ttctccttct acacactggg cgtcatgtct ggagctgcag aggaggtggc cactggagca  
1920  
gaggtggtgg atctgctggg ggccatgtgt agggcagctt tagagtcccc tagaaagagc  
1980  
atcatctttg agccttatcc ctctgtggtg gacctcactg atcccaagac tctggccttt  
2040  
aacctaaga agaagaatta tgagcggctt cagaaagctc tggatagtgt gatgtctatt  
2100  
cgggagatga ccagggctc atatttgga atcaagaaac agatggacaa gttggatccc  
2160  
ctggcccatc ctctcctgca gtggatcatc tctagcaaca ggtcacacat tgtcaaacta  
2220  
cctctcagca ggcagctgaa gttcatgcac acctcacacc agttcctcct gctgagcagc  
2280  
cctcctgcca aggaggctcg gttccggacc gccaaagaagc tctatggcag cacctttgcc  
2340  
ttccatgggt ccacattga gaactggcat tcatcctgc gcaatgggct ggtcaatgca  
2400  
tcctacacca aactgcagga atgggaaaag gacagcacag gatgccctcc aaggatgagc  
2460  
tggtcagag atacaacagg atgaatacca tccccagac ccgatccatt cagtcacggt  
2520

tcctgcagag tcggaatcta aactgtatag cactttgtga agtgattaca tctaaggacc  
 2580  
 tccagaagca tgggaacatc tgggtgtgcc ctgtgtccga ccatgtctgc acaagattct  
 2640  
 tctttgtata tgaggatggt caggtgggcg atgccaacat tattattcgg gtccccaagt  
 2700  
 taca  
 2704

<210> 3910

<211> 499

<212> PRT

<213> Homo sapiens

<400> 3910

Met	Asp	Ile	Lys	Gly	Gln	Phe	Trp	Asn	Asp	Asp	Asp	Ser	Glu	Gly	Asp
1				5				10					15		
Asn	Glu	Ser	Glu	Glu	Phe	Leu	Tyr	Gly	Val	Gln	Gly	Ser	Cys	Ala	Ala
			20					25					30		
Asp	Leu	Tyr	Arg	His	Pro	Gln	Leu	Asp	Ala	Asp	Ile	Glu	Ala	Val	Lys
			35				40					45			
Glu	Ile	Tyr	Ser	Glu	Asn	Ser	Val	Ser	Ile	Arg	Glu	Tyr	Gly	Thr	Ile
	50					55				60					
Asp	Asp	Val	Asp	Ile	Asp	Leu	His	Ile	Asn	Ile	Ser	Phe	Leu	Asp	Glu
65					70					75				80	
Glu	Val	Ser	Thr	Ala	Trp	Lys	Val	Leu	Arg	Thr	Glu	Pro	Ile	Val	Leu
			85					90					95		
Arg	Leu	Arg	Phe	Ser	Leu	Ser	Gln	Tyr	Leu	Asp	Gly	Pro	Glu	Pro	Ser
			100					105					110		
Ile	Glu	Val	Phe	Gln	Pro	Ser	Asn	Lys	Glu	Gly	Phe	Gly	Leu	Gly	Leu
			115				120					125			
Gln	Leu	Lys	Lys	Ile	Leu	Gly	Met	Phe	Thr	Ser	Gln	Gln	Trp	Lys	His
			130			135					140				
Leu	Ser	Asn	Asp	Phe	Leu	Lys	Thr	Gln	Gln	Glu	Lys	Arg	His	Ser	Trp
145					150					155				160	
Phe	Lys	Ala	Ser	Gly	Thr	Ile	Lys	Lys	Phe	Arg	Ala	Gly	Leu	Ser	Ile
			165						170				175		
Phe	Ser	Pro	Ile	Pro	Lys	Ser	Pro	Ser	Phe	Pro	Ile	Ile	Gln	Asp	Ser
			180					185					190		
Met	Leu	Lys	Gly	Lys	Leu	Gly	Val	Pro	Glu	Leu	Arg	Val	Gly	Arg	Leu
		195					200					205			
Met	Asn	Arg	Ser	Ile	Ser	Cys	Thr	Met	Asn	Asn	Pro	Lys	Val	Glu	Val
	210					215					220				
Phe	Gly	Tyr	Pro	Pro	Ser	Pro	Gln	Val	Ser	Gly	His	Cys	Lys	Asn	Ile
225					230					235				240	
Pro	Thr	Leu	Glu	Tyr	Gly	Phe	Leu	Val	Gln	Ile	Met	Lys	Tyr	Ala	Glu
			245						250					255	
Gln	Arg	Ile	Pro	Thr	Leu	Asn	Glu	Tyr	Cys	Val	Val	Cys	Asp	Glu	Gln
			260					265					270		
His	Val	Phe	Gln	Asn	Gly	Ser	Met	Leu	Lys	Pro	Ala	Val	Cys	Thr	Arg
		275					280					285			
Glu	Leu	Cys	Val	Phe	Ser	Phe	Tyr	Thr	Leu	Gly	Val	Met	Ser	Gly	Ala
	290					295					300				
Ala	Glu	Glu	Val	Ala	Thr	Gly	Ala	Glu	Val	Val	Asp	Leu	Leu	Val	Ala

```

305          310          315          320
Met Cys Arg Ala Ala Leu Glu Ser Pro Arg Lys Ser Ile Ile Phe Glu
          325          330          335
Pro Tyr Pro Ser Val Val Asp Pro Thr Asp Pro Lys Thr Leu Ala Phe
          340          345          350
Asn Pro Lys Lys Lys Asn Tyr Glu Arg Leu Gln Lys Ala Leu Asp Ser
          355          360          365
Val Met Ser Ile Arg Glu Met Thr Gln Gly Ser Tyr Leu Glu Ile Lys
          370          375          380
Lys Gln Met Asp Lys Leu Asp Pro Leu Ala His Pro Leu Leu Gln Trp
385          390          395          400
Ile Ile Ser Ser Asn Arg Ser His Ile Val Lys Leu Pro Leu Ser Arg
          405          410          415
Gln Leu Lys Phe Met His Thr Ser His Gln Phe Leu Leu Leu Ser Ser
          420          425          430
Pro Pro Ala Lys Glu Ala Arg Phe Arg Thr Ala Lys Lys Leu Tyr Gly
          435          440          445
Ser Thr Phe Ala Phe His Gly Ser His Ile Glu Asn Trp His Ser Ile
          450          455          460
Leu Arg Asn Gly Leu Val Asn Ala Ser Tyr Thr Lys Leu Gln Glu Trp
465          470          475          480
Glu Lys Asp Ser Thr Gly Cys Pro Pro Arg Met Ser Trp Ser Arg Asp
          485          490          495
Thr Thr Gly

```

&lt;210&gt; 3911

&lt;211&gt; 9121

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3911

```

nnggatgtgg tgagccctct tgactatgag acgaccaagg agtacaccct acgggtgcga
60
gcacaggatg gtggccgtcc cccactctct aatgtctctg gcttggtgac agtacaggtc
120
ctggatatca acgacaatgc ccccatcttc gtcagcacc ctttccaggc tactgtcctg
180
gagagcgtcc ccttaggcta cctggttctc catgtccagg ctatcgacgc tgatgctggt
240
gacaatgccc gcctggaata ccgccttgct ggggtgggac atgacttccc cttcaccatc
300
aacaatggca caggctggat ctctgtggct gctgaactgg accgggagga agttgatttc
360
tacagctttg gggtagaagc tcgagaccat ggcaactccag cactcactgc ctcggccagt
420
gtcagcgtga ctgtcctgga tgtcaacgac aacaatccaa cctttaccca accagagtac
480
acagtgcggc tcaatgagga tgcagctgtg ggcaccagcg tggtagcggg gtcagctgtg
540
gaccgtgatg ctcatagtgt catcacctac cagatcacca gtggcaatac tcgaaaccgc
600
ttctccatca ccagccaaag tgggtggggg ctggtatccc ttgccctgcc actggactac
660

```

aaacttgagc ggcagtatgt gttggctgtt accgcctccg atggcactcg gcaggacacg  
720  
gcacagattg tggatgaatgt caccgacgcc aacacccatc gtccctgtctt tcagagctcc  
780  
cactatacag tgaatgttaa tgaggaccgg ccggcaggca ccacggtggg gctgatcagc  
840  
gccacggatg aggacacagg tgagaatgcc cgcacacctt acttcacatga ggacagcacc  
900  
ccccagttcc gcacgatgc agacacgggg gctgtcacca cccaggctga gctggactac  
960  
gaagaccaag tgtcttacac cctggccatt actgctcggg acaatggcat tccccagaag  
1020  
tccgacacca cctaccctga gatcctgggtg aacgacgtga atgacaatgc ccctcagttc  
1080  
ctgagagact cctaccaggg cagtgtctat gaggatgtgc cacccttcac tagcgtcctg  
1140  
cagatctcag ccactgatcg tgattctgga cttaatggca gggctcttcta caccttccaa  
1200  
ggaggcgacg atggagacgg tgactttatt gttgagtcca cgtcaggcat cgtgcgaacg  
1260  
ctacggaggc tggatcgaga gaacgtggcc cagtatgtct tgccgggcata tgcagtggac  
1320  
aaggggatgc cccagccccg cacacctatg gaagtgcacg tcactgtgtt ggatgtgaat  
1380  
gacaatcccc ctgtctttga gcaggatgag tttgatgtgt ttgtggaaga gaacagcccc  
1440  
attgggctag ccgtggcccc ggacacagcc actgaccccc atgaaggcac caatgccacg  
1500  
attatgtacc agattgtgga gggcaacatc cctgaggtct tccagctgga catcttctcc  
1560  
ggggagctga cagccctggg agacttagac tacgaggacc ggcctgagta cgtcctgggc  
1620  
atccaggcca cgtcagctcc tctgggtgagc cgggctacag tccacgtccg cctccttgac  
1680  
cgcaatgaca acccaccagt gctgggcaac tttgagatcc ttttcaaca ctatgtcacc  
1740  
aatcgctcaa gcagcttccc tgggggtgcc attggccgag tacctgcca tgaccctgat  
1800  
atctcagata gtctgactta cagctttgag cggggaatg aactcagcct ggtcctgctc  
1860  
aatgcctcca cgggtgagct gaagctaagc cgcgcactgg acaacaaccg gcctctggag  
1920  
gcgctcatga gcgtgtctgt gtctgatggc atccacagcg tcacggcctt ctgcaccctg  
1980  
cgtgtcacca tcacacgga cgacatgtg accaacagca tcactgtccg cctggagaac  
2040  
atgtcccagg agaagttcct gtccccgtg ctggccctct tcgtggaggg ggtggccgcc  
2100  
gtgtgtcca ccaccaagga cgacgtcttc gtcttcaacg tccagaacga caccgacgtc  
2160  
agctccaaca tcctgaacgt gaccttctcg gcgctgctgc ctggcgcgct ccgcgccag  
2220  
ttcttcccgt cggaggacct gcaggagcag atctacctga atcgagcgt gctgaccacc  
2280

atctccacgc agcgcggtgct gcccttcgac gacaacatct gcctgcgcga gccctgcgag  
2340  
aactacatga agtgcggtgc cgttctgcga ttcgacagct ccgcgccctt cctcagctcc  
2400  
accaccgtgc tcttcgggcc catccacccc atcaacggcc tgcgctgccg ctgcccggcc  
2460  
ggcttcaccg gcgactactg cgagacggag atcgacctct gctactcgcg gccgtgcggc  
2520  
gccaacggcc gctgccgcag ccgcgagggc ggctacacct gcctctgtcg tgatggctac  
2580  
acgggtgagc actgtgaggt gagtgtctgc tcaggccgtt gcaccccggtg tgtctgcaag  
2640  
aatgggggca cctgtgtcaa cctgctggtg ggcggtttca agtgcgattg cccatctgga  
2700  
gacttcgaga agccctactg ccagggtgacc acgcgcagct tccccgcca ctcttcac  
2760  
acctttcgcg gcctgcgcca gcgtttccac ttcacctgg cctctcgtt tgccacaaag  
2820  
gagcgcgacg ggttgctgtt gtacaatggg cgtttcaatg agaagcatga ctttgtggcc  
2880  
ctcgaggtga tccaggagca ggtccagctc accttctctg caggggagtc aaccaccacg  
2940  
gtgtcccat tcgtgcccg aggagtcagt gatggccagt ggcatacggt gcagctgaa  
3000  
tactacaata agccactgtt gggtcagaca gggctccac agggcccatc agagcagaag  
3060  
gtggctgtgg tgaccgtgga tggctgtgac acaggagtgg ccttgcgctt cggatctgtc  
3120  
ctgggcaact actcctgtgc tgcccagggc acccagggtg gcagcaagaa gtctctggat  
3180  
ctgacggggc cctgctact agggggggtg cctgacctgc ccgagagctt cccagtccga  
3240  
atgcggcagt tcgtgggctg catgcggaac ctgcagggtg acagccggca catagacatg  
3300  
gctgacttca ttgccaacaa tggcaccgtg cctggctgcc ctgccaagaa gaacgtgtgt  
3360  
gacagcaaca cttgccacaa tgggggcact tgcgtgaacc agtgggacgc gttcagctgc  
3420  
gagtgcctcc tgggctttgg gggcaagagc tgcgcccagg aatggccaa tccacagcac  
3480  
ttcctgggca gcagcctggt ggctggcat ggctctcgc tgcccatctc ccaaccctgg  
3540  
tacctcagcc tcatgttccg cacgcgccag gccgacggtg tcctgtgtca ggccatcacc  
3600  
agggggcgca gcaccatcac cctacagcta cgagagggcc acgtgatgct gagcgtggag  
3660  
ggcacagggc ttcaggctc ctctctccgt ctggagccag gccgggcca tgacggtgac  
3720  
tggcaccatg cacagctggc actgggagcc agcggggggc ctggccatgc cattctgtcc  
3780  
ttcgattatg ggcagcagag agcagagggc aacctgggccc cccggctgca tggctgtcac  
3840  
ctggaaca taacagtggg cggaatacct gggccagccg gcggtgtggc ccgtggcttt  
3900

cggggctgtt tgcaggggtgt gcggggtgagc gatacgccag aggggggttaa cagcctggat  
3960  
cccagccatg gggagagcat caacgtggag caaggctgta gcctgcctga cccttgtgac  
4020  
tcaaaccctg gtcttgctaa cagctattgc agcaacgact gggacagcta ttcttgacg  
4080  
tgtgatccag gttactatgg tgacaactgt actaatgtgt gtgacctgaa cccgtgtgag  
4140  
caccagtctg tgtgtaccg caagcccagt gcccccatg gctatacctg cgagtgtccc  
4200  
ccaaattacc ttggggcata ctgtgagacc aggattgacc agccttgtcc ccgtggctgg  
4260  
tggggacatc ccacatgtgg cccatgcaac tgtgatgtca gcaaaggctt tgaccagac  
4320  
tgcaacaaga caagcggcga gtgccactgc aaggagaacc actaccggcc ccagggcagc  
4380  
cccacctgcc tcttgtgtga ctgtaccgcc acaggctcct tgtccagagt ctgtgacct  
4440  
gaggatggcc agtgtccatg caagccaggt gtcacgggc gtcagtgtga ccgctgtgac  
4500  
aacccttttg ctgaggtcac caccaatggc tgtgaagtga attatgacag ctgcccacga  
4560  
gcgattgagg ctgggatctg gtggccccgt acccgcttcg ggctgcctgc tgctgctccc  
4620  
tgtcccaaag gctcctttgg gactgctgtg cgccactgtg atgagcacag ggggtggctc  
4680  
cccccaaacc tcttcaactg cagctccatc accttctcag aactgaaggg ctctgctgag  
4740  
cggtacagc ggaatgagtc aggcctagac tcagggcgct ccagcagct agccctgctc  
4800  
ctgcgcaacg ccacgcagca cacagctggc tacttcggca gcgacgtcaa ggtggcctac  
4860  
cagctggcca cgcggctgct ggcccacgag agcaccagc ggggctttgg gctgtctgcc  
4920  
acacaggacg tgcacttcac tgagaatctg ctgcgggtgg gcagcgcct cctggacaca  
4980  
gccaacaagc ggcactggga gctgatccag cagacagagg gtggcaccgc ctggctgctc  
5040  
cagcactatg aggcctacgc cagtgcctg gccagaaca tgcggcacac ctacctaagc  
5100  
cccttcacca tcgtcacgcc caacattgtc atctccgtag tgcgcttga caaagggaa  
5160  
tttgcgggg ccaagctgcc ccgtacgag gccctgcgtg gggagcagcc cccggacctt  
5220  
gagacaacag tcattctgcc tgagtctgtc ttcagagaga cccccccgt ggtcaggccc  
5280  
gcaggccccg gagaggccca ggagccagag gagctggcac ggcgacagc acggcaccgc  
5340  
gagctgagcc agggtgaggc tgtggccagc gtcacatct accgcaccct ggccgggcta  
5400  
ctgcctcata actatgacct tgacaagcgc agcttgagag tccccaaacg cccgatcatc  
5460  
aacacaccg tggtagcat cagcgtccat gatgatgagg agcttctgcc cggggccctg  
5520

gacaaacccg tcacgggtgca gttccgcctg ctggagacag aggagcggac caagcccatc  
5580  
tgtgtcttct ggaaccattc aatcctggtc agtggcacag gtggctggtc ggccagagggc  
5640  
tgtgaagtcg tcttccgcaa tgagagccac gtcagctgcc agtgcaacca catgacgagc  
5700  
ttcgctgtgc tcatggacgt ttctcggcgg gagaatgggg agatcctgcc actgaagaca  
5760  
ctgacatacg tggctctagg tgtcaccttg gctgcccttc tgtcacctt cttcttcctc  
5820  
actctcttgc gtatcctgcg ctccaaccaa cacggcatcc gacgtaacct gacagctgcc  
5880  
ctgggcctgg ctcagctggc cttcctcctg ggaatcaacc aggctgacct cctttttgcc  
5940  
tgcacagtca ttgccatcct gctgcacttc ctgtacctct gcaccttttc ctgggctctg  
6000  
ctggaggcct tgcacctgta ccgggcactc actgagggtgc gcgatgtcaa caccggcccc  
6060  
atgcgcttct actacatgct gggctggggc gtgctgcct tcatacacagg gctagccgtg  
6120  
ggcctggacc ccgagggcta ccgggaaccct gacttctgct ggctctccat ctatgacacg  
6180  
ctcatctgga gttttgctgg ccgggtggcc tttgccgtct cgatgagtgt cttcctgtac  
6240  
atcctggcgg ccggggcctc ctgtgctgcc cagcggcagg gctttgagaa gaaaggtcct  
6300  
gtctcggggc tgcagccctc cttcgccgtc ctcctgtgc tgagcggcac gtggctgctg  
6360  
gcactgctct ctgtcaacag cgacaccctc ctcttccact acctctttgc tacctgcaat  
6420  
tgcattccagg gccccttcat cttcctctcc tatgtggtgc ttagcaagga ggtccggaaa  
6480  
gcactcaagc ttgctgcag ccgcaagccc agcctgacc ctgctctgac caccaagtcc  
6540  
acctgacct cgtctacaa ctgccccagc ccctacgagc atgggcggct gtaccagccc  
6600  
tacggagact cggccggctc tctgcacagc accagtcgct cgggcaagag tcagcccagc  
6660  
tacatcccct tcttgctgag ggaggagtcc gcactgaacc ctggccaagg gcccctggc  
6720  
ctgggggatc caggcagcct gttcctggaa ggtcaagacc agcagcatga tcctgacacg  
6780  
gactccgaca gtgacctgtc cttagaagac gaccagagtg gctcctatgc ctctaccac  
6840  
tcatacagaca gtgaggagga agaagaggag gaggaagagg aggccgcctt ccctggagag  
6900  
cagggtggg atagcctgct ggggcctgga gcagagagac tgcccctgca cagtactccc  
6960  
aaggatgggg gccagggcc tggcaaggcc ccctggccag gagactttgg gaccacagca  
7020  
aaagagagta gtggcaacgg gggccctgag gagcggctgc gggagaatgg agatgcctg  
7080  
tctcgagagg ggtccctagg ccccttcca ggctcttctg ccagcctca caaaggcatc  
7140

cttaagaaga agtgtctgcc caccatcagc gagaagagca gcctcctgcg gctccccctg  
7200  
gagcaatgca caggggtcttc ccggggctcc tccgctagt agggcagccg gggcgggccc  
7260  
cctccccgcc caccgccccg gcagagcctc caggagcagc tgaacgggggt catgccccatc  
7320  
gccatgagca tcaaggcagg cacgggtggat gaggactcgt caggctccga atttctcttc  
7380  
tttaacttcc tgcattaacc ctgggcccgtg gtctctacgc ccgaggctcc ctcccttcc  
7440  
ccagccgcac tcatgccctg ctctgtctt gtgtcttctc ctgccccgt ccccatcgcc  
7500  
tgcccgagc agcgacgaaa cgtccatctg aggagcctgg gccttgccgg gaggggtact  
7560  
caccaccct aaggccatct agtgccaact cccccccac cattccccctc actgcacttt  
7620  
ggacccttg ggccaacatc tccaagacaa agtttttcag aaaagaggaa aaaaagaatt  
7680  
taaaaaagga tctccactct tcatgacttc agggattcat tttttttata cgctggaaat  
7740  
tgactccct ttccttccc aaagaggata ggacctcca ggatgcttcc cagcctctcc  
7800  
tcagtttccc atctgtgtg cctctgggag gagagggact cctggggggc ctgccccca  
7860  
tacgccatca ccaaaaggaa aggacaaagc cacacgcagc cagggttca cacccttca  
7920  
gctgcaccg ggcaggcctc agaacggtga ggggccaggg caaagggtgt gcctcgtcct  
7980  
gcccgactg cctctcccag gaactggaaa agccctgtcc ggtgagggg cagaaggact  
8040  
cagcgccct ggacccccaa atgtgcatg aacacatttt caggggagcc tgtgccccca  
8100  
ggcgggggtc gggcagcccc agccccctc ctttctctgg actctggccg tgcgcggcag  
8160  
cccaggtgt tgctcagttg ctgacccaaa agtgcttcat tttctgtgcc cgccccgcg  
8220  
cccgggcagg ccagtcatgt gttaagttgc gcttctttgc tgtgatgtgg gtgggggagg  
8280  
aagagtaaac acagtgtggt ctgggtgcc ctgagggtgc tcaatcaagc acaggtttca  
8340  
agtctgggt ctggtgtcca ctacccacc ccacccccca aaatcagaca aatgctactt  
8400  
tgtctaacct gctgtggcct ctgagacatg ttctattttt aacccttct tgggaattggc  
8460  
tctcttcttc aaaggaccag gtctgttcc tctttctccc cgactccacc ccagctcct  
8520  
gtgaagagag agttaatata tttgttttat ttatttgcct tttgcgttg gatgggttcg  
8580  
tgtccagtc cgggggtctg atatggccat cacaggctgg gtgttcccag cagccctggc  
8640  
ttgggggctt gacgccctc cccttgcccc aggccatcat ctccccact ctctccct  
8700  
ctctcagtt ttgcccactg ctttctatct gagtcccat ttactccaag catgtattcc  
8760



agacttggtca ctgactttcc ttctggagca ggtggctaga aaaagaggct gtgggcagga  
 8820  
 aagaaaggct cctgtttctc atttgtgagg ccagcctctg gcttttctgc cgtggattct  
 8880  
 cccctgtct tctccctca gcaattcctg caaagggtta aaaatttaac tggtttttac  
 8940  
 tactgatgac ttgatttaaa aaaaatacaa agatgctgga tgctaactg atactaacca  
 9000  
 tcagattgta cagtttggtt gttgctgtaa atatggtagc gttttgttgt tgttgttttt  
 9060  
 tcatgccccca tactactgaa taaactagtt ctgtgcgggt aaaaaaaaaa aaaaaaaaaa  
 9120  
 a  
 9121

<210> 3912  
 <211> 2405  
 <212> PRT  
 <213> Homo sapiens

<400> 3912  
 Glu Ser Val Pro Leu Gly Tyr Leu Val Leu His Val Gln Ala Ile Asp  
 1 5 10 15  
 Ala Asp Ala Gly Asp Asn Ala Arg Leu Glu Tyr Arg Leu Ala Gly Val  
 20 25 30  
 Gly His Asp Phe Pro Phe Thr Ile Asn Asn Gly Thr Gly Trp Ile Ser  
 35 40 45  
 Val Ala Ala Glu Leu Asp Arg Glu Glu Val Asp Phe Tyr Ser Phe Gly  
 50 55 60  
 Val Glu Ala Arg Asp His Gly Thr Pro Ala Leu Thr Ala Ser Ala Ser  
 65 70 75 80  
 Val Ser Val Thr Val Leu Asp Val Asn Asp Asn Asn Pro Thr Phe Thr  
 85 90 95  
 Gln Pro Glu Tyr Thr Val Arg Leu Asn Glu Asp Ala Ala Val Gly Thr  
 100 105 110  
 Ser Val Val Thr Val Ser Ala Val Asp Arg Asp Ala His Ser Val Ile  
 115 120 125  
 Thr Tyr Gln Ile Thr Ser Gly Asn Thr Arg Asn Arg Phe Ser Ile Thr  
 130 135 140  
 Ser Gln Ser Gly Gly Gly Leu Val Ser Leu Ala Leu Pro Leu Asp Tyr  
 145 150 155 160  
 Lys Leu Glu Arg Gln Tyr Val Leu Ala Val Thr Ala Ser Asp Gly Thr  
 165 170 175  
 Arg Gln Asp Thr Ala Gln Ile Val Val Asn Val Thr Asp Ala Asn Thr  
 180 185 190  
 His Arg Pro Val Phe Gln Ser Ser His Tyr Thr Val Asn Val Asn Glu  
 195 200 205  
 Asp Arg Pro Ala Gly Thr Thr Val Val Leu Ile Ser Ala Thr Asp Glu  
 210 215 220  
 Asp Thr Gly Glu Asn Ala Arg Ile Thr Tyr Phe Met Glu Asp Ser Ile  
 225 230 235 240  
 Pro Gln Phe Arg Ile Asp Ala Asp Thr Gly Ala Val Thr Thr Gln Ala  
 245 250 255  
 Glu Leu Asp Tyr Glu Asp Gln Val Ser Tyr Thr Leu Ala Ile Thr Ala

260 265 270  
 Arg Asp Asn Gly Ile Pro Gln Lys Ser Asp Thr Thr Tyr Leu Glu Ile  
 275 280 285  
 Leu Val Asn Asp Val Asn Asp Asn Ala Pro Gln Phe Leu Arg Asp Ser  
 290 295 300  
 Tyr Gln Gly Ser Val Tyr Glu Asp Val Pro Pro Phe Thr Ser Val Leu  
 305 310 315 320  
 Gln Ile Ser Ala Thr Asp Arg Asp Ser Gly Leu Asn Gly Arg Val Phe  
 325 330 335  
 Tyr Thr Phe Gln Gly Gly Asp Asp Gly Asp Gly Asp Phe Ile Val Glu  
 340 345 350  
 Ser Thr Ser Gly Ile Val Arg Thr Leu Arg Arg Leu Asp Arg Glu Asn  
 355 360 365  
 Val Ala Gln Tyr Val Leu Arg Ala Tyr Ala Val Asp Lys Gly Met Pro  
 370 375 380  
 Pro Ala Arg Thr Pro Met Glu Val Thr Val Thr Val Leu Asp Val Asn  
 385 390 395 400  
 Asp Asn Pro Pro Val Phe Glu Gln Asp Glu Phe Asp Val Phe Val Glu  
 405 410 415  
 Glu Asn Ser Pro Ile Gly Leu Ala Val Ala Arg Val Thr Ala Thr Asp  
 420 425 430  
 Pro Asp Glu Gly Thr Asn Ala Gln Ile Met Tyr Gln Ile Val Glu Gly  
 435 440 445  
 Asn Ile Pro Glu Val Phe Gln Leu Asp Ile Phe Ser Gly Glu Leu Thr  
 450 455 460  
 Ala Leu Val Asp Leu Asp Tyr Glu Asp Arg Pro Glu Tyr Val Leu Val  
 465 470 475 480  
 Ile Gln Ala Thr Ser Ala Pro Leu Val Ser Arg Ala Thr Val His Val  
 485 490 495  
 Arg Leu Leu Asp Arg Asn Asp Asn Pro Pro Val Leu Gly Asn Phe Glu  
 500 505 510  
 Ile Leu Phe Asn Asn Tyr Val Thr Asn Arg Ser Ser Ser Phe Pro Gly  
 515 520 525  
 Gly Ala Ile Gly Arg Val Pro Ala His Asp Pro Asp Ile Ser Asp Ser  
 530 535 540  
 Leu Thr Tyr Ser Phe Glu Arg Gly Asn Glu Leu Ser Leu Val Leu Leu  
 545 550 555 560  
 Asn Ala Ser Thr Gly Glu Leu Lys Leu Ser Arg Ala Leu Asp Asn Asn  
 565 570 575  
 Arg Pro Leu Glu Ala Leu Met Ser Val Ser Val Ser Asp Gly Ile His  
 580 585 590  
 Ser Val Thr Ala Phe Cys Thr Leu Arg Val Thr Ile Ile Thr Asp Asp  
 595 600 605  
 Met Leu Thr Asn Ser Ile Thr Val Arg Leu Glu Asn Met Ser Gln Glu  
 610 615 620  
 Lys Phe Leu Ser Pro Leu Leu Ala Leu Phe Val Glu Gly Val Ala Ala  
 625 630 635 640  
 Val Leu Ser Thr Thr Lys Asp Asp Val Phe Val Phe Asn Val Gln Asn  
 645 650 655  
 Asp Thr Asp Val Ser Ser Asn Ile Leu Asn Val Thr Phe Ser Ala Leu  
 660 665 670  
 Leu Pro Gly Gly Val Arg Gly Gln Phe Phe Pro Ser Glu Asp Leu Gln  
 675 680 685  
 Glu Gln Ile Tyr Leu Asn Arg Thr Leu Leu Thr Thr Ile Ser Thr Gln

690	695	700
Arg Val Leu Pro Phe Asp	Asp Asn Ile Cys Leu Arg Glu Pro Cys Glu	
705	710	715
Asn Tyr Met Lys Cys Val Ser Val Leu Arg Phe Asp Ser Ser Ala Pro		720
	725	730
Phe Leu Ser Ser Thr Thr Val Leu Phe Arg Pro Ile His Pro Ile Asn		735
	740	745
Gly Leu Arg Cys Arg Cys Pro Pro Gly Phe Thr Gly Asp Tyr Cys Glu		750
	755	760
Thr Glu Ile Asp Leu Cys Tyr Ser Arg Pro Cys Gly Ala Asn Gly Arg		765
	770	775
Cys Arg Ser Arg Glu Gly Gly Tyr Thr Cys Leu Cys Arg Asp Gly Tyr		780
785	790	795
Thr Gly Glu His Cys Glu Val Ser Ala Arg Ser Gly Arg Cys Thr Pro		800
	805	810
Gly Val Cys Lys Asn Gly Gly Thr Cys Val Asn Leu Leu Val Gly Gly		815
	820	825
Phe Lys Cys Asp Cys Pro Ser Gly Asp Phe Glu Lys Pro Tyr Cys Gln		830
	835	840
Val Thr Thr Arg Ser Phe Pro Ala His Ser Phe Ile Thr Phe Arg Gly		845
	850	855
Leu Arg Gln Arg Phe His Phe Thr Leu Ala Leu Ser Phe Ala Thr Lys		860
865	870	875
Glu Arg Asp Gly Leu Leu Tyr Asn Gly Arg Phe Asn Glu Lys His		880
	885	890
Asp Phe Val Ala Leu Glu Val Ile Gln Glu Gln Val Gln Leu Thr Phe		895
	900	905
Ser Ala Gly Glu Ser Thr Thr Thr Val Ser Pro Phe Val Pro Gly Gly		910
	915	920
Val Ser Asp Gly Gln Trp His Thr Val Gln Leu Lys Tyr Tyr Asn Lys		925
	930	935
Pro Leu Leu Gly Gln Thr Gly Leu Pro Gln Gly Pro Ser Glu Gln Lys		940
945	950	955
Val Ala Val Val Thr Val Asp Gly Cys Asp Thr Gly Val Ala Leu Arg		960
	965	970
Phe Gly Ser Val Leu Gly Asn Tyr Ser Cys Ala Ala Gln Gly Thr Gln		975
	980	985
Gly Gly Ser Lys Lys Ser Leu Asp Leu Thr Gly Pro Leu Leu Leu Gly		990
	995	1000
Gly Val Pro Asp Leu Pro Glu Ser Phe Pro Val Arg Met Arg Gln Phe		1005
	1010	1015
Val Gly Cys Met Arg Asn Leu Gln Val Asp Ser Arg His Ile Asp Met		1020
1025	1030	1035
Ala Asp Phe Ile Ala Asn Asn Gly Thr Val Pro Gly Cys Pro Ala Lys		1040
	1045	1050
Lys Asn Val Cys Asp Ser Asn Thr Cys His Asn Gly Gly Thr Cys Val		1055
	1060	1065
Asn Gln Trp Asp Ala Phe Ser Cys Glu Cys Pro Leu Gly Phe Gly Gly		1070
	1075	1080
Lys Ser Cys Ala Gln Glu Met Ala Asn Pro Gln His Phe Leu Gly Ser		1085
	1090	1095
Ser Leu Val Ala Trp His Gly Leu Ser Leu Pro Ile Ser Gln Pro Trp		1100
1105	1110	1115
Tyr Leu Ser Leu Met Phe Arg Thr Arg Gln Ala Asp Gly Val Leu Leu		1120

1125 1130 1135  
 Gln Ala Ile Thr Arg Gly Arg Ser Thr Ile Thr Leu Gln Leu Arg Glu  
 1140 1145 1150  
 Gly His Val Met Leu Ser Val Glu Gly Thr Gly Leu Gln Ala Ser Ser  
 1155 1160 1165  
 Leu Arg Leu Glu Pro Gly Arg Ala Asn Asp Gly Asp Trp His His Ala  
 1170 1175 1180  
 Gln Leu Ala Leu Gly Ala Ser Gly Gly Pro Gly His Ala Ile Leu Ser  
 1185 1190 1195 1200  
 Phe Asp Tyr Gly Gln Gln Arg Ala Glu Gly Asn Leu Gly Pro Arg Leu  
 1205 1210 1215  
 His Gly Leu His Leu Ser Asn Ile Thr Val Gly Gly Ile Pro Gly Pro  
 1220 1225 1230  
 Ala Gly Gly Val Ala Arg Gly Phe Arg Gly Cys Leu Gln Gly Val Arg  
 1235 1240 1245  
 Val Ser Asp Thr Pro Glu Gly Val Asn Ser Leu Asp Pro Ser His Gly  
 1250 1255 1260  
 Glu Ser Ile Asn Val Glu Gln Gly Cys Ser Leu Pro Asp Pro Cys Asp  
 1265 1270 1275 1280  
 Ser Asn Pro Cys Pro Ala Asn Ser Tyr Cys Ser Asn Asp Trp Asp Ser  
 1285 1290 1295  
 Tyr Ser Cys Ser Cys Asp Pro Gly Tyr Tyr Gly Asp Asn Cys Thr Asn  
 1300 1305 1310  
 Val Cys Asp Leu Asn Pro Cys Glu His Gln Ser Val Cys Thr Arg Lys  
 1315 1320 1325  
 Pro Ser Ala Pro His Gly Tyr Thr Cys Glu Cys Pro Pro Asn Tyr Leu  
 1330 1335 1340  
 Gly Pro Tyr Cys Glu Thr Arg Ile Asp Gln Pro Cys Pro Arg Gly Trp  
 1345 1350 1355 1360  
 Trp Gly His Pro Thr Cys Gly Pro Cys Asn Cys Asp Val Ser Lys Gly  
 1365 1370 1375  
 Phe Asp Pro Asp Cys Asn Lys Thr Ser Gly Glu Cys His Cys Lys Glu  
 1380 1385 1390  
 Asn His Tyr Arg Pro Pro Gly Ser Pro Thr Cys Leu Leu Cys Asp Cys  
 1395 1400 1405  
 Tyr Pro Thr Gly Ser Leu Ser Arg Val Cys Asp Pro Glu Asp Gly Gln  
 1410 1415 1420  
 Cys Pro Cys Lys Pro Gly Val Ile Gly Arg Gln Cys Asp Arg Cys Asp  
 1425 1430 1435 1440  
 Asn Pro Phe Ala Glu Val Thr Thr Asn Gly Cys Glu Val Asn Tyr Asp  
 1445 1450 1455  
 Ser Cys Pro Arg Ala Ile Glu Ala Gly Ile Trp Trp Pro Arg Thr Arg  
 1460 1465 1470  
 Phe Gly Leu Pro Ala Ala Ala Pro Cys Pro Lys Gly Ser Phe Gly Thr  
 1475 1480 1485  
 Ala Val Arg His Cys Asp Glu His Arg Gly Trp Leu Pro Pro Asn Leu  
 1490 1495 1500  
 Phe Asn Cys Thr Ser Ile Thr Phe Ser Glu Leu Lys Gly Phe Ala Glu  
 1505 1510 1515 1520  
 Arg Leu Gln Arg Asn Glu Ser Gly Leu Asp Ser Gly Arg Ser Gln Gln  
 1525 1530 1535  
 Leu Ala Leu Leu Leu Arg Asn Ala Thr Gln His Thr Ala Gly Tyr Phe  
 1540 1545 1550  
 Gly Ser Asp Val Lys Val Ala Tyr Gln Leu Ala Thr Arg Leu Leu Ala

1555	1560	1565
His Glu Ser Thr Gln Arg Gly Phe Gly Leu Ser Ala Thr Gln Asp Val		
1570	1575	1580
His Phe Thr Glu Asn Leu Leu Arg Val Gly Ser Ala Leu Leu Asp Thr		
1585	1590	1595
Ala Asn Lys Arg His Trp Glu Leu Ile Gln Gln Thr Glu Gly Gly Thr		1600
1605	1610	1615
Ala Trp Leu Leu Gln His Tyr Glu Ala Tyr Ala Ser Ala Leu Ala Gln		
1620	1625	1630
Asn Met Arg His Thr Tyr Leu Ser Pro Phe Thr Ile Val Thr Pro Asn		
1635	1640	1645
Ile Val Ile Ser Val Val Arg Leu Asp Lys Gly Asn Phe Ala Gly Ala		
1650	1655	1660
Lys Leu Pro Arg Tyr Glu Ala Leu Arg Gly Glu Gln Pro Pro Asp Leu		
1665	1670	1675
Glu Thr Thr Val Ile Leu Pro Glu Ser Val Phe Arg Glu Thr Pro Pro		1680
1685	1690	1695
Val Val Arg Pro Ala Gly Pro Gly Glu Ala Gln Glu Pro Glu Glu Leu		
1700	1705	1710
Ala Arg Arg Gln Arg Arg His Pro Glu Leu Ser Gln Gly Glu Ala Val		
1715	1720	1725
Ala Ser Val Ile Ile Tyr Arg Thr Leu Ala Gly Leu Leu Pro His Asn		
1730	1735	1740
Tyr Asp Pro Asp Lys Arg Ser Leu Arg Val Pro Lys Arg Pro Ile Ile		
1745	1750	1755
Asn Thr Pro Val Val Ser Ile Ser Val His Asp Asp Glu Glu Leu Leu		1760
1765	1770	1775
Pro Arg Ala Leu Asp Lys Pro Val Thr Val Gln Phe Arg Leu Leu Glu		
1780	1785	1790
Thr Glu Glu Arg Thr Lys Pro Ile Cys Val Phe Trp Asn His Ser Ile		
1795	1800	1805
Leu Val Ser Gly Thr Gly Gly Trp Ser Ala Arg Gly Cys Glu Val Val		
1810	1815	1820
Phe Arg Asn Glu Ser His Val Ser Cys Gln Cys Asn His Met Thr Ser		
1825	1830	1835
Phe Ala Val Leu Met Asp Val Ser Arg Arg Glu Asn Gly Glu Ile Leu		
1845	1850	1855
Pro Leu Lys Thr Leu Thr Tyr Val Ala Leu Gly Val Thr Leu Ala Ala		
1860	1865	1870
Leu Leu Leu Thr Phe Phe Phe Leu Thr Leu Leu Arg Ile Leu Arg Ser		
1875	1880	1885
Asn Gln His Gly Ile Arg Arg Asn Leu Thr Ala Ala Leu Gly Leu Ala		
1890	1895	1900
Gln Leu Val Phe Leu Leu Gly Ile Asn Gln Ala Asp Leu Pro Phe Ala		
1905	1910	1915
Cys Thr Val Ile Ala Ile Leu Leu His Phe Leu Tyr Leu Cys Thr Phe		1920
1925	1930	1935
Ser Trp Ala Leu Leu Glu Ala Leu His Leu Tyr Arg Ala Leu Thr Glu		
1940	1945	1950
Val Arg Asp Val Asn Thr Gly Pro Met Arg Phe Tyr Tyr Met Leu Gly		
1955	1960	1965
Trp Gly Val Pro Ala Phe Ile Thr Gly Leu Ala Val Gly Leu Asp Pro		
1970	1975	1980
Glu Gly Tyr Gly Asn Pro Asp Phe Cys Trp Leu Ser Ile Tyr Asp Thr		

1985	1990	1995	2000
Leu Ile Trp Ser Phe Ala Gly Pro Val Ala Phe Ala Val Ser Met Ser			
	2005	2010	2015
Val Phe Leu Tyr Ile Leu Ala Ala Arg Ala Ser Cys Ala Ala Gln Arg			
	2020	2025	2030
Gln Gly Phe Glu Lys Lys Gly Pro Val Ser Gly Leu Gln Pro Ser Phe			
	2035	2040	2045
Ala Val Leu Leu Leu Leu Ser Ala Thr Trp Leu Leu Ala Leu Leu Ser			
	2050	2055	2060
Val Asn Ser Asp Thr Leu Leu Phe His Tyr Leu Phe Ala Thr Cys Asn			
2065	2070	2075	2080
Cys Ile Gln Gly Pro Phe Ile Phe Leu Ser Tyr Val Val Leu Ser Lys			
	2085	2090	2095
Glu Val Arg Lys Ala Leu Lys Leu Ala Cys Ser Arg Lys Pro Ser Pro			
	2100	2105	2110
Asp Pro Ala Leu Thr Thr Lys Ser Thr Leu Thr Ser Ser Tyr Asn Cys			
	2115	2120	2125
Pro Ser Pro Tyr Ala Asp Gly Arg Leu Tyr Gln Pro Tyr Gly Asp Ser			
	2130	2135	2140
Ala Gly Ser Leu His Ser Thr Ser Arg Ser Gly Lys Ser Gln Pro Ser			
2145	2150	2155	2160
Tyr Ile Pro Phe Leu Leu Arg Glu Glu Ser Ala Leu Asn Pro Gly Gln			
	2165	2170	2175
Gly Pro Pro Gly Leu Gly Asp Pro Gly Ser Leu Phe Leu Glu Gly Gln			
	2180	2185	2190
Asp Gln Gln His Asp Pro Asp Thr Asp Ser Asp Ser Asp Leu Ser Leu			
	2195	2200	2205
Glu Asp Asp Gln Ser Gly Ser Tyr Ala Ser Thr His Ser Ser Asp Ser			
	2210	2215	2220
Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Ala Ala Phe Pro Gly Glu			
2225	2230	2235	2240
Gln Gly Trp Asp Ser Leu Leu Gly Pro Gly Ala Glu Arg Leu Pro Leu			
	2245	2250	2255
His Ser Thr Pro Lys Asp Gly Gly Pro Gly Pro Gly Lys Ala Pro Trp			
	2260	2265	2270
Pro Gly Asp Phe Gly Thr Thr Ala Lys Glu Ser Ser Gly Asn Gly Ala			
	2275	2280	2285
Pro Glu Glu Arg Leu Arg Glu Asn Gly Asp Ala Leu Ser Arg Glu Gly			
	2290	2295	2300
Ser Leu Gly Pro Leu Pro Gly Ser Ser Ala Gln Pro His Lys Gly Ile			
2305	2310	2315	2320
Leu Lys Lys Lys Cys Leu Pro Thr Ile Ser Glu Lys Ser Ser Leu Leu			
	2325	2330	2335
Arg Leu Pro Leu Glu Gln Cys Thr Gly Ser Ser Arg Gly Ser Ser Ala			
	2340	2345	2350
Ser Glu Gly Ser Arg Gly Gly Pro Pro Pro Arg Pro Pro Arg Gln			
	2355	2360	2365
Ser Leu Gln Glu Gln Leu Asn Gly Val Met Pro Ile Ala Met Ser Ile			
	2370	2375	2380
Lys Ala Gly Thr Val Asp Glu Asp Ser Ser Gly Ser Glu Phe Leu Phe			
2385	2390	2395	2400
Phe Asn Phe Leu His			
	2405		

<210> 3913  
<211> 5237  
<212> DNA  
<213> Homo sapiens

<400> 3913  
nccccggggg ggggggttat aactgctgca gccgcaggat aacctcgag ggtgggccgg  
60  
agggcgggcg ccgcccgtgc ctgtgctgcg gcgatggccc agtgtgtaca aacagtgcag  
120  
gagctaatacc cggactcctt cgtcccctgt gtcgctgcgc tgtgcagcga cgaagccgag  
180  
cggctcactc gtctcaatca cctcagcttc gcggagctgc ttaagccctt ctcccgcctc  
240  
acttccgagg ttcacatgag agatcctaataatcaacttc acgtaattaa aaatttgaag  
300  
atagcagtaa gcaacattgt caccagcca cctcagcctg gagccatccg gaagcttttg  
360  
aatgatgttg tttctggcag tcagcctgca gaaggattag tagctaattg gattacagca  
420  
ggagattatg accttaacat cagtgcact actccatggg ttgagtctta cagagaaacc  
480  
tttcttcagt cgatgccagc atcggatcat gaatttctga accactattt agcatgtatg  
540  
ttggtagcgt catctagtga agctgaacct gtggaacagt tttcaaagtt gtcacaagaa  
600  
cagcatcgaa ttcagcaca cagtgattat tctacccca agtgggttat accaaatata  
660  
cttaataact atgtactttt acatgatgta agtgcaggag atgaacagag agctgaatca  
720  
atztatgaag aaatgaaaca gaaatatgga actcagggtt gctatttact taaaattaat  
780  
tctgaacat ctaatcgagc atcagatgaa cagataccag atccttggag tcagtatctc  
840  
cagaaaaata gtattcaaaa ccaggaatca tatgaagatg gccttgtac tataacttca  
900  
aataagaatt ctgataataa cttgctttca ttggatggat tagataacga agtcaaagat  
960  
ggcttaccaa ataactttag agctcaccca cttcagttgg agcaatccag tgacccttct  
1020  
aacagtattg atggcccaga tcatctaaga tctgcttcat cgttacatga aacaaagaaa  
1080  
ggaaatactg gaataattca tggatcatgt ttaacactta ctgatcatga tagaattcga  
1140  
cagtttatac aaaagttcac atttcggggc cttttgccac atatagagaa aacaattagg  
1200  
caattaaacg atcagctaataatcaagaaaa ggtttgagtc gatctctatt ttctgcaact  
1260  
aaaaaatggg ttagtggcag taaagttcca gaaaagagca ttaatgacct gaaaaatata  
1320  
tctggcttgc tgtatcctcc ggaagcacca gaacttcaaa tcaggaaaat ggctgactta  
1380  
tgttttttgg tgcagcatta tgatttggct tacagttgct atcatactgc aaagaaagat  
1440

tttcttaatg atcaagcaat gctttatgca gctgggtcct tggaaatggc agcagtgtct  
1500  
gcttttcttc aaccaggagc acctaggcca tctctgctc attacatgga tacagcaatt  
1560  
cagacataca gagatatctg caagaatatg gtgttggtg aaagatgtgt gttgcttagt  
1620  
gctgaacttt taaaaagcca aagcaaatat tcagaggctg cagctctcct aatacggttg  
1680  
accagtgagg attctgatct tcgaagtgc cttcttttgg aacaggcagc acattgcttt  
1740  
ataaacatga aaagtcccat ggtagaaaa tatgcatttc atatgatatt ggcaggccat  
1800  
cgatttagta aagcagggca gaaaaagcat gctttacgct gttattgtca agccatgcaa  
1860  
gtttacaaag gaaaaggctg gtctcttgca gaggatcaca ttaatttcac tattgggcgc  
1920  
cagtcctata ctcttagaca gctggataat gctgtgtctg cttttaggca tattctaatt  
1980  
aatgaaagta aacaatctgc tgctcaacag ggggctttcc tcagagaata tctttatgtt  
2040  
tacaagaatg taagtcagct gtcaccagat ggtcctttgc cacagcttcc tttaccgtat  
2100  
attaacagtt cagcaacacg ggtttttttt ggccatgaca gacgaccagc ggatggtgaa  
2160  
aaacaagcag ctactcatgt aagtcctgat caagaatatg attctgaatc ctctcagcag  
2220  
tggcgagaac ttgaggaaca agttgtttct gtggttaaca aaggagtaat tccatccaat  
2280  
tttcatccca cacaatactg tttgaacagt tactcagata attcaagatt tccacttgca  
2340  
gttgtagaag aaccaattac agtggaagtg gcttttagaa accctttgaa agttctactt  
2400  
ttgttgactg atttgcatt gctttggaag tttcatccta aagatttcag tggaaaggat  
2460  
aatgaagaag ttaaacaact agttacaagt gaacctgaaa tgattggagc tgaagttatt  
2520  
tcagagttct taattaatgg cgaagaatca aaagtggcaa gactaaagct ctttcccat  
2580  
cacatagggg agctgcatat tctgggagtt gtttataatc ttggcactat tcagggtct  
2640  
atgacagtag atggcattgg tgctcttccc ggatgtcaca caggaaaata ttccttgagt  
2700  
atgtcagtcc gagggagca ggatttagaa attcaaggtc ctcgacttaa caacacaaaa  
2760  
gaagagaaaa catctgttaa atatggcct gatcgacgtt tagatcccat aatcacagaa  
2820  
gaaatgccac tgttgagggt gttctttata cttttccta cagggttct ctgtggagaa  
2880  
atccgaaaag catatgtaga atttgtcaat gtcagcaaatt gtccacttac tggattgaag  
2940  
gttgtttcta aacgtccaga gttctttact ttcggtggtg atactgctgt tctaacacca  
3000  
ctaagtcct cagcttctga gaattgtagt gcttacaaga ctgtgtgac agatgctacc  
3060



tctgtgtgta cagcactcat atcatcagct tcttctgtag actttggcat tggcacagga  
3120  
agtcaaccag aggtgattcc tgttccccct cctgacactg ttcttctacc cggagcctca  
3180  
gtgcagctgc caatgtgggt acgtgggcct gatgaagaag gtgtccatga aattaacttt  
3240  
ttgttttact atgaaagtgt caaaaagcag ccaaaaatac ggcacagaat attaagacac  
3300  
actgcaatta tttgtaccag tcggtcttta aatgtacggg ccactgtctg cagaagtaat  
3360  
tctcttgaaa atgaagaagg cagaggaggc aatatgctag tctttgtgga tgtggaaaat  
3420  
accaatacta gtgaagcagg cgttaaggaa ttccacatag tgcaagtatc aagtagtagc  
3480  
aaacactgga agttacagaa atctgtaaat ctttctgaaa acaaagatgc caaacttgcc  
3540  
agtagggaga agggaaagt ttgctttaag gcaataagat gtgagaaaga agaagcggcc  
3600  
acacagtcct ctgaaaaata tacctttgca gatatcatct ttggaaatga acagataata  
3660  
agttcagcaa gcccatgtgc agacttcttt tatcgaagt ttcttctga attgaaaaaa  
3720  
ccacaagctc acttgccctgt gcatacagaa aaacagtcaa cagaggatgc tgtgagattg  
3780  
attcaaaaat gcagtggagt agatttgaat attgtcatat tatggaaggc atacgttgtg  
3840  
gaagacagta aacagcttat tttggaagg caacatcatg ttattcttcg cactatagga  
3900  
aaagaagcct tttcatatcc tcagaaacag gagccaccag aaatggaact attgaaattt  
3960  
ttcaggccag aaaacattac agtttctca aggccatcag tagagcagct ttctagtctc  
4020  
attaaaacga gtcttcacta ccagaaatca tttaatcatc catttcatca aaaaagcctt  
4080  
tgttttagtac cagtcaactt tttactttcc aattgttcta aggctgatgt agatgtcata  
4140  
gttgatcttc ggcataaaac aacaagtcca gaagcactgg aaatccatgg atcattcaca  
4200  
tggcttggaac aaacacagta taaacttcaa cttaaaagcc aggagattca cagtctgcag  
4260  
ctgaaagcat gctttgttca tacagggtgt tataaccttg gaactcctag ggtatttgcc  
4320  
aagttatcgg accaagttac agtgtttgaa acaagtcagc agaattccat gcctgccctg  
4380  
atcatcatca gtaatgtgtg acaacttgg aatttgtact gaaatccaca ataatcagtt  
4440  
tttgctggat gggttttaca gcagtatttg atatacctaa cttgttatgg aggttgattg  
4500  
atatctgac cctgcaaaat actttgactt gtcattttgt tgatgatgca aagcacgttg  
4560  
gactgagaat acttaacatt ctttttctgt atttctttaa accctgagaa taatttacat  
4620  
gctcataata caggatatca gcatatttgt gcaccttatt aagcccatc ttaagaaaac  
4680

acaaagtcta agtctgctgt tacaacttgt caatggtata cgaatattag gagatgattc  
 4740  
 tgagaaagga aaggccttgt tggcagtact cctgttaagc cattagtctc taaattccag  
 4800  
 ctttactgtg aagttctata gagtgttaaa tacaaatttt cctgtcttgc ttcacacagt  
 4860  
 tccttaaaat cagttttgaa ctttgggtcat agagtcttca tatttcagta tttggtggtc  
 4920  
 cctatgactt atacataact ttgtaaaaag aaaaaaaaaat tttttctgat gctttgaata  
 4980  
 tagttttgaa aggagttttg acttttttcc cctcattcat ctccagtatag agtgcgctat  
 5040  
 ttcacaatac gatttttgtc attaaaatta ccatattctt tattatataa cgttaactat  
 5100  
 tgagttgatc tgtttaaaat ataaatctca agttaattaa aaataagctt ttcaaaaatg  
 5160  
 tattatattt ataacaaata tactgtaaat agaataaaga catgctattc actgtaaaaa  
 5220  
 aaaaaaaaaa aaaaaaa  
 5237

<210> 3914

<211> 1435

<212> PRT

<213> Homo sapiens

<400> 3914

Met	Ala	Gln	Cys	Val	Gln	Thr	Val	Gln	Glu	Leu	Ile	Pro	Asp	Ser	Phe
1			5					10					15		
Val	Pro	Cys	Val	Ala	Ala	Leu	Cys	Ser	Asp	Glu	Ala	Glu	Arg	Leu	Thr
		20						25				30			
Arg	Leu	Asn	His	Leu	Ser	Phe	Ala	Glu	Leu	Leu	Lys	Pro	Phe	Ser	Arg
	35					40						45			
Leu	Thr	Ser	Glu	Val	His	Met	Arg	Asp	Pro	Asn	Asn	Gln	Leu	His	Val
	50				55					60					
Ile	Lys	Asn	Leu	Lys	Ile	Ala	Val	Ser	Asn	Ile	Val	Thr	Gln	Pro	Pro
65				70					75				80		
Gln	Pro	Gly	Ala	Ile	Arg	Lys	Leu	Leu	Asn	Asp	Val	Val	Ser	Gly	Ser
			85						90				95		
Gln	Pro	Ala	Glu	Gly	Leu	Val	Ala	Asn	Val	Ile	Thr	Ala	Gly	Asp	Tyr
		100						105				110			
Asp	Leu	Asn	Ile	Ser	Ala	Thr	Thr	Pro	Trp	Phe	Glu	Ser	Tyr	Arg	Glu
	115					120					125				
Thr	Phe	Leu	Gln	Ser	Met	Pro	Ala	Ser	Asp	His	Glu	Phe	Leu	Asn	His
	130				135					140					
Tyr	Leu	Ala	Cys	Met	Leu	Val	Ala	Ser	Ser	Ser	Glu	Ala	Glu	Pro	Val
145				150					155				160		
Glu	Gln	Phe	Ser	Lys	Leu	Ser	Gln	Glu	Gln	His	Arg	Ile	Gln	His	Asn
			165					170				175			
Ser	Asp	Tyr	Ser	Tyr	Pro	Lys	Trp	Phe	Ile	Pro	Asn	Thr	Leu	Lys	Tyr
	180						185				190				
Tyr	Val	Leu	Leu	His	Asp	Val	Ser	Ala	Gly	Asp	Glu	Gln	Arg	Ala	Glu
	195				200						205				
Ser	Ile	Tyr	Glu	Glu	Met	Lys	Gln	Lys	Tyr	Gly	Thr	Gln	Gly	Cys	Tyr

210	215	220
Leu Leu Lys Ile Asn Ser Arg Thr Ser Asn Arg Ala Ser Asp Glu Gln		
225	230	235
Ile Pro Asp Pro Trp Ser Gln Tyr Leu Gln Lys Asn Ser Ile Gln Asn		240
	245	250
Gln Glu Ser Tyr Glu Asp Gly Pro Cys Thr Ile Thr Ser Asn Lys Asn		255
	260	265
Ser Asp Asn Asn Leu Leu Ser Leu Asp Gly Leu Asp Asn Glu Val Lys		270
	275	280
Asp Gly Leu Pro Asn Asn Phe Arg Ala His Pro Leu Gln Leu Glu Gln		285
	290	295
Ser Ser Asp Pro Ser Asn Ser Ile Asp Gly Pro Asp His Leu Arg Ser		300
305	310	315
Ala Ser Ser Leu His Glu Thr Lys Lys Gly Asn Thr Gly Ile Ile His		320
	325	330
Gly Ala Cys Leu Thr Leu Thr Asp His Asp Arg Ile Arg Gln Phe Ile		335
	340	345
Gln Lys Phe Thr Phe Arg Gly Leu Leu Pro His Ile Glu Lys Thr Ile		350
	355	360
Arg Gln Leu Asn Asp Gln Leu Ile Ser Arg Lys Gly Leu Ser Arg Ser		365
	370	375
Leu Phe Ser Ala Thr Lys Lys Trp Phe Ser Gly Ser Lys Val Pro Glu		380
385	390	395
Lys Ser Ile Asn Asp Leu Lys Asn Thr Ser Gly Leu Leu Tyr Pro Pro		400
	405	410
Glu Ala Pro Glu Leu Gln Ile Arg Lys Met Ala Asp Leu Cys Phe Leu		415
	420	425
Val Gln His Tyr Asp Leu Ala Tyr Ser Cys Tyr His Thr Ala Lys Lys		430
	435	440
Asp Phe Leu Asn Asp Gln Ala Met Leu Tyr Ala Ala Gly Ala Leu Glu		445
	450	455
Met Ala Ala Val Ser Ala Phe Leu Gln Pro Gly Ala Pro Arg Pro Tyr		460
465	470	475
Pro Ala His Tyr Met Asp Thr Ala Ile Gln Thr Tyr Arg Asp Ile Cys		480
	485	490
Lys Asn Met Val Leu Ala Glu Arg Cys Val Leu Leu Ser Ala Glu Leu		495
	500	505
Leu Lys Ser Gln Ser Lys Tyr Ser Glu Ala Ala Ala Leu Leu Ile Arg		510
	515	520
Leu Thr Ser Glu Asp Ser Asp Leu Arg Ser Ala Leu Leu Glu Gln		525
	530	535
Ala Ala His Cys Phe Ile Asn Met Lys Ser Pro Met Val Arg Lys Tyr		540
545	550	555
Ala Phe His Met Ile Leu Ala Gly His Arg Phe Ser Lys Ala Gly Gln		560
	565	570
Lys Lys His Ala Leu Arg Cys Tyr Cys Gln Ala Met Gln Val Tyr Lys		575
	580	585
Gly Lys Gly Trp Ser Leu Ala Glu Asp His Ile Asn Phe Thr Ile Gly		590
	595	600
Arg Gln Ser Tyr Thr Leu Arg Gln Leu Asp Asn Ala Val Ser Ala Phe		605
	610	615
Arg His Ile Leu Ile Asn Glu Ser Lys Gln Ser Ala Ala Gln Gln Gly		620
625	630	635
Ala Phe Leu Arg Glu Tyr Leu Tyr Val Tyr Lys Asn Val Ser Gln Leu		640

3076

```

      1075      1080      1085
Asn Ser Leu Glu Asn Glu Glu Gly Arg Gly Gly Asn Met Leu Val Phe
1090      1095      1100
Val Asp Val Glu Asn Thr Asn Thr Ser Glu Ala Gly Val Lys Glu Phe
1105      1110      1115      1120
His Ile Val Gln Val Ser Ser Ser Ser Lys His Trp Lys Leu Gln Lys
      1125      1130      1135
Ser Val Asn Leu Ser Glu Asn Lys Asp Ala Lys Leu Ala Ser Arg Glu
      1140      1145      1150
Lys Gly Lys Phe Cys Phe Lys Ala Ile Arg Cys Glu Lys Glu Glu Ala
      1155      1160      1165
Ala Thr Gln Ser Ser Glu Lys Tyr Thr Phe Ala Asp Ile Ile Phe Gly
      1170      1175      1180
Asn Glu Gln Ile Ile Ser Ser Ala Ser Pro Cys Ala Asp Phe Phe Tyr
1185      1190      1195      1200
Arg Ser Leu Ser Ser Glu Leu Lys Lys Pro Gln Ala His Leu Pro Val
      1205      1210      1215
His Thr Glu Lys Gln Ser Thr Glu Asp Ala Val Arg Leu Ile Gln Lys
      1220      1225      1230
Cys Ser Glu Val Asp Leu Asn Ile Val Ile Leu Trp Lys Ala Tyr Val
      1235      1240      1245
Val Glu Asp Ser Lys Gln Leu Ile Leu Glu Gly Gln His His Val Ile
      1250      1255      1260
Leu Arg Thr Ile Gly Lys Glu Ala Phe Ser Tyr Pro Gln Lys Gln Glu
1265      1270      1275      1280
Pro Pro Glu Met Glu Leu Leu Lys Phe Phe Arg Pro Glu Asn Ile Thr
      1285      1290      1295
Val Ser Ser Arg Pro Ser Val Glu Gln Leu Ser Ser Leu Ile Lys Thr
      1300      1305      1310
Ser Leu His Tyr Pro Glu Ser Phe Asn His Pro Phe His Gln Lys Ser
      1315      1320      1325
Leu Cys Leu Val Pro Val Thr Leu Leu Leu Ser Asn Cys Ser Lys Ala
      1330      1335      1340
Asp Val Asp Val Ile Val Asp Leu Arg His Lys Thr Thr Ser Pro Glu
1345      1350      1355      1360
Ala Leu Glu Ile His Gly Ser Phe Thr Trp Leu Gly Gln Thr Gln Tyr
      1365      1370      1375
Lys Leu Gln Leu Lys Ser Gln Glu Ile His Ser Leu Gln Leu Lys Ala
      1380      1385      1390
Cys Phe Val His Thr Gly Val Tyr Asn Leu Gly Thr Pro Arg Val Phe
      1395      1400      1405
Ala Lys Leu Ser Asp Gln Val Thr Val Phe Glu Thr Ser Gln Gln Asn
      1410      1415      1420
Ser Met Pro Ala Leu Ile Ile Ile Ser Asn Val
1425      1430      1435

```

&lt;210&gt; 3915

&lt;211&gt; 1802

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3915

tcgactcgct ggtacaacct tctcagctac aaatacttga agaagcagag cagggagctc  
60

aagccagtgg gagttatggc ccctgcctca gggcctgcc aacaggacgc tgtgtctgct  
120  
ctgttggaa acacagcagt ggagctggag aagaggcagg agggcaggag cagcacacag  
180  
acactggaag acagctggag gtatgaggag accagtgaga atgaggcagt agccgaggaa  
240  
gaggaggagg aggtggagga ggaggagaa gaggatgttt tcaccgagaa agcctcacct  
300  
gatatggatg ggtaccacgc attaaagggtg gacaaagaga ccaacacgga gaccccgcc  
360  
ccatccccca cagtgggtgc acctaaggac cggagagtgg gcaccccgtc ccaggggcca  
420  
tttcttcgag ggagcaccat catccgctct aagaccttct cccaggacc ccagagccag  
480  
tacgtgtgcc ggctgaatcg gagtgatagt gacagctcca ctctgtccaa aaagccacct  
540  
tttgttcgaa actccctgga gcgacgcagc gtccggatga agcgccgctc cccaccccca  
600  
cagccttctt cgggtcaagtc gctgcgctcc gagcgtctga tccgtacctc gctggacctg  
660  
gagtttagacc tgcaggcgac aagaacctgg cacagccaat tgaccagga gatctcggtg  
720  
ctgaaggagc tcaaggagca gctggaacaa gccaaagagc acggggagaa ggagctgcca  
780  
cagtgggtgc gtgaggacga gcgtttccgc ctgctgctga ggatgctgga gaagcggcag  
840  
atggaccgag cggagcaca ggggtgagctt cagacagaca agatgatgag ggcagctgcc  
900  
aaggatgtgc acaggctccg aggccagagc tgtaaggaa cccagaagt tcagtcttct  
960  
agggagaaga tggcattttt caccggcct cggatgaata tccagctct ctctgcagat  
1020  
gacgtctaat cgcagaaaa gtatttctt tgttccactg accaggctgt gaacattgac  
1080  
tgtggctaaa gttatttatg tgggtgtata tgaaggact gagtcacaag tcctctagt  
1140  
ctcttgttg tttgaagatg aaccgacttt ttagtttggg tctactgtt gttattaaaa  
1200  
acagaacaaa aacaaaacac acacacacac aaaaacagaa acaaaaaaaa ccagcattaa  
1260  
aataataaga ttgtatagtt tgtatattta ggagtgtatt tttgggaaag aaaattttaa  
1320  
tgaactaaag cagtattgag ttgctgctct tcttaaaatc gtttagattt tttttggtt  
1380  
gtacagctcc accttttaga ggtcttactg caataagaag taatgcctgg gggacggtaa  
1440  
tcctaataag acgtcccgca cttgtcacag tacagctaatt ttttctagt taacatattt  
1500  
tgtacaatat taaaaaatg cacagaaacc attggggggg attcagaggt gcatccacgg  
1560  
atcttcttga gctgtgacgt gtttttatgt ggctgcccc cgtggagcgg gcagtgtgat  
1620  
aggctgggtg ggctaagcag ctagtctat gtgggtgaca ggccacgctg gtctcagatg  
1680

cccagtgaag ccactaacat gagtgagggg agggctgtgg ggaactccat tcagttttat  
 1740  
 ctccatcaat aaagtggcct ttcaaaaaga aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1800  
 aa  
 1802

<210> 3916  
 <211> 342  
 <212> PRT  
 <213> Homo sapiens

<400> 3916  
 Ser Thr Arg Trp Tyr Asn Leu Leu Ser Tyr Lys Tyr Leu Lys Lys Gln  
 1 5 10 15  
 Ser Arg Glu Leu Lys Pro Val Gly Val Met Ala Pro Ala Ser Gly Pro  
 20 25 30  
 Ala Ser Thr Asp Ala Val Ser Ala Leu Leu Glu Gln Thr Ala Val Glu  
 35 40 45  
 Leu Glu Lys Arg Gln Glu Gly Arg Ser Ser Thr Gln Thr Leu Glu Asp  
 50 55 60  
 Ser Trp Arg Tyr Glu Glu Thr Ser Glu Asn Glu Ala Val Ala Glu Glu  
 65 70 75 80  
 Glu Glu Glu Glu Val Glu Glu Glu Gly Glu Glu Asp Val Phe Thr Glu  
 85 90 95  
 Lys Ala Ser Pro Asp Met Asp Gly Tyr Pro Ala Leu Lys Val Asp Lys  
 100 105 110  
 Glu Thr Asn Thr Glu Thr Pro Ala Pro Ser Pro Thr Val Val Arg Pro  
 115 120 125  
 Lys Asp Arg Arg Val Gly Thr Pro Ser Gln Gly Pro Phe Leu Arg Gly  
 130 135 140  
 Ser Thr Ile Ile Arg Ser Lys Thr Phe Ser Pro Gly Pro Gln Ser Gln  
 145 150 155 160  
 Tyr Val Cys Arg Leu Asn Arg Ser Asp Ser Asp Ser Ser Thr Leu Ser  
 165 170 175  
 Lys Lys Pro Pro Phe Val Arg Asn Ser Leu Glu Arg Arg Ser Val Arg  
 180 185 190  
 Met Lys Arg Pro Ser Pro Pro Pro Gln Pro Ser Ser Val Lys Ser Leu  
 195 200 205  
 Arg Ser Glu Arg Leu Ile Arg Thr Ser Leu Asp Leu Glu Leu Asp Leu  
 210 215 220  
 Gln Ala Thr Arg Thr Trp His Ser Gln Leu Thr Gln Glu Ile Ser Val  
 225 230 235 240  
 Leu Lys Glu Leu Lys Glu Gln Leu Glu Gln Ala Lys Ser His Gly Glu  
 245 250 255  
 Lys Glu Leu Pro Gln Trp Leu Arg Glu Asp Glu Arg Phe Arg Leu Leu  
 260 265 270  
 Leu Arg Met Leu Glu Lys Arg Gln Met Asp Arg Ala Glu His Lys Gly  
 275 280 285  
 Glu Leu Gln Thr Asp Lys Met Met Arg Ala Ala Ala Lys Asp Val His  
 290 295 300  
 Arg Leu Arg Gly Gln Ser Cys Lys Glu Pro Pro Glu Val Gln Ser Phe  
 305 310 315 320  
 Arg Glu Lys Met Ala Phe Phe Thr Arg Pro Arg Met Asn Ile Pro Ala

325  
Leu Ser Ala Asp Asp Val  
340

330

335

&lt;210&gt; 3917

&lt;211&gt; 597

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3917

ntttgtgctc tctgctggc taagtttttc acctactagg acgggggtgg ggtggggaga  
60  
acaggtgtcc ttctaaaata cagcacaagc tacagcctgc gtccagccat aaccaggag  
120  
taacatcaga aacaggtgag aatgaccact ttaactcacc ggcccgtcg cactgaaata  
180  
agcaagaact ctgaaaagaa gatggaaagt gaggaagaca gtaattggga gaaaagtcca  
240  
gacaatgaag attctggaga ctctaaggat atccgcctta ctcttatgga agaagtattg  
300  
cttctgggac taaaagataa agaggggtac acatctttct ggaatgactg catatcatca  
360  
ggcctgcgag ggggcatcct gatagagctg gccatgcggg gtccaatcta tctggaaccc  
420  
ccgaccatgc gtaagaagcg actactagac agaaaggtag tgctaaagtc agacagccca  
480  
acaggtgatg ttttactgga tgaaactctg aaacacatca aagcaactga acccacagaa  
540  
actgtccaaa catggataga gctactcact ggtgagacct ggaaccctt caaatta  
597

&lt;210&gt; 3918

&lt;211&gt; 152

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3918

Met	Thr	Thr	Leu	Thr	His	Arg	Ala	Arg	Arg	Thr	Glu	Ile	Ser	Lys	Asn
1			5					10						15	
Ser	Glu	Lys	Lys	Met	Glu	Ser	Glu	Glu	Asp	Ser	Asn	Trp	Glu	Lys	Ser
		20						25					30		
Pro	Asp	Asn	Glu	Asp	Ser	Gly	Asp	Ser	Lys	Asp	Ile	Arg	Leu	Thr	Leu
		35					40					45			
Met	Glu	Glu	Val	Leu	Leu	Leu	Gly	Leu	Lys	Asp	Lys	Glu	Gly	Tyr	Thr
		50				55					60				
Ser	Phe	Trp	Asn	Asp	Cys	Ile	Ser	Ser	Gly	Leu	Arg	Gly	Gly	Ile	Leu
				70						75				80	
Ile	Glu	Leu	Ala	Met	Arg	Gly	Arg	Ile	Tyr	Leu	Glu	Pro	Pro	Thr	Met
				85				90						95	
Arg	Lys	Lys	Arg	Leu	Leu	Asp	Arg	Lys	Val	Leu	Leu	Lys	Ser	Asp	Ser
			100					105					110		
Pro	Thr	Gly	Asp	Val	Leu	Leu	Asp	Glu	Thr	Leu	Lys	His	Ile	Lys	Ala
		115					120					125			
Thr	Glu	Pro	Thr	Glu	Thr	Val	Gln	Thr	Trp	Ile	Glu	Leu	Leu	Thr	Gly



130  
Glu Thr Trp Asn Pro Phe Lys Leu  
145 150

<210> 3919  
<211> 1278  
<212> DNA  
<213> Homo sapiens

<400> 3919  
nntccggagg agctggaggc cctgtcgagg agcatggtgc tccacctgcg gaggtcatc  
60  
gaccagcggg acgagtgcac cgagctgacg gtggacctca ctcaggaacg ggactacctg  
120  
caggcacagc atccaccag ccccatcaag tcctccagcg ccgactccac tcccagcccc  
180  
accagcagcc tctctagcga agacaagcag cacctggcgg tagagctggc cgacaccaag  
240  
gccaggctgc ggcgcgtcag gcaggagctg gaggataaga cagagcagct tgtggacacc  
300  
agacatgagg tggaccagct ggtgctggaa ctgcagaaag ttaagcagga gaacatccag  
360  
ctagcggcag acgcccggtc tgctcgtgcc tatcgagacg agctggattc cctgcgggag  
420  
aaggcgaacc gcgtggagag gctggagctg gagctgaccc gctgcaagga gaagctgcac  
480  
gacgtggact tctacaaggc ccgcatggag gagctgagag aagataatat cattttaatt  
540  
gaaaccaagg ccatgctgga ggaacagctg actgctgctc gggcccgggg cgataaagtc  
600  
catgagctgg aaaaggagaa cctgcagctg aaatccaagc ttcacgacct ggaattggac  
660  
cgggacacag ataagaaacg aattgaggag ctgctggaag aaaacatggt ccttgagatt  
720  
gcacagaagc agagcatgaa cgaatctgcc caccttggct gggagctgga gcagctgtcc  
780  
aagaacgcag acttgtcaga cgctccagg aagtcgtttg tgtttgagct gaacgaatgt  
840  
gcgtccagcc gcatcctgaa gctggagaag gagaatcaga gcctccagag caccatccag  
900  
gggctgcggg acgctccct ggtgttgag gagagcgcc tcaagtgcgg ggagctggag  
960  
aaggagaacc accagctcag caagaagatt gaaaagtac aaaccagct ggagagagaa  
1020  
aagcagagca accaagatct ggagaccctc agtgaggagc tgatcagaga gaaggagcag  
1080  
ctgcagagt acatggagac cctgaaggct gacaaagcca ggcagatcaa ggaccttgag  
1140  
caggaaaagg accacctcaa ccgagccatg tggctcgtgc gggagaggtc gcaggtcagc  
1200  
agtgaggccc gcatgaaaga cgtggagaag gagaacaaag ccctccacca gacggtgacg  
1260  
gaggccaatg gcaagctt  
1278

&lt;210&gt; 3920

&lt;211&gt; 426

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3920

Xaa Pro Glu Glu Leu Glu Ala Leu Ser Arg Ser Met Val Leu His Leu  
 1 5 10 15  
 Arg Arg Leu Ile Asp Gln Arg Asp Glu Cys Thr Glu Leu Ile Val Asp  
 20 25 30  
 Leu Thr Gln Glu Arg Asp Tyr Leu Gln Ala Gln His Pro Pro Ser Pro  
 35 40 45  
 Ile Lys Ser Ser Ser Ala Asp Ser Thr Pro Ser Pro Thr Ser Ser Leu  
 50 55 60  
 Ser Ser Glu Asp Lys Gln His Leu Ala Val Glu Leu Ala Asp Thr Lys  
 65 70 75 80  
 Ala Arg Leu Arg Arg Val Arg Gln Glu Leu Glu Asp Lys Thr Glu Gln  
 85 90 95  
 Leu Val Asp Thr Arg His Glu Val Asp Gln Leu Val Leu Glu Leu Gln  
 100 105 110  
 Lys Val Lys Gln Glu Asn Ile Gln Leu Ala Ala Asp Ala Arg Ser Ala  
 115 120 125  
 Arg Ala Tyr Arg Asp Glu Leu Asp Ser Leu Arg Glu Lys Ala Asn Arg  
 130 135 140  
 Val Glu Arg Leu Glu Leu Glu Leu Thr Arg Cys Lys Glu Lys Leu His  
 145 150 155 160  
 Asp Val Asp Phe Tyr Lys Ala Arg Met Glu Glu Leu Arg Glu Asp Asn  
 165 170 175  
 Ile Ile Leu Ile Glu Thr Lys Ala Met Leu Glu Glu Gln Leu Thr Ala  
 180 185 190  
 Ala Arg Ala Arg Gly Asp Lys Val His Glu Leu Glu Lys Glu Asn Leu  
 195 200 205  
 Gln Leu Lys Ser Lys Leu His Asp Leu Glu Leu Asp Arg Asp Thr Asp  
 210 215 220  
 Lys Lys Arg Ile Glu Glu Leu Leu Glu Glu Asn Met Val Leu Glu Ile  
 225 230 235 240  
 Ala Gln Lys Gln Ser Met Asn Glu Ser Ala His Leu Gly Trp Glu Leu  
 245 250 255  
 Glu Gln Leu Ser Lys Asn Ala Asp Leu Ser Asp Ala Ser Arg Lys Ser  
 260 265 270  
 Phe Val Phe Glu Leu Asn Glu Cys Ala Ser Ser Arg Ile Leu Lys Leu  
 275 280 285  
 Glu Lys Glu Asn Gln Ser Leu Gln Ser Thr Ile Gln Gly Leu Arg Asp  
 290 295 300  
 Ala Ser Leu Val Leu Glu Glu Ser Gly Leu Lys Cys Gly Glu Leu Glu  
 305 310 315 320  
 Lys Glu Asn His Gln Leu Ser Lys Lys Ile Glu Lys Leu Gln Thr Gln  
 325 330 335  
 Leu Glu Arg Glu Lys Gln Ser Asn Gln Asp Leu Glu Thr Leu Ser Glu  
 340 345 350  
 Glu Leu Ile Arg Glu Lys Glu Gln Leu Gln Ser Asp Met Glu Thr Leu  
 355 360 365  
 Lys Ala Asp Lys Ala Arg Gln Ile Lys Asp Leu Glu Gln Glu Lys Asp

```

      370              375              380
His Leu Asn Arg Ala Met Trp Ser Leu Arg Glu Arg Ser Gln Val Ser
385              390              395              400
Ser Glu Ala Arg Met Lys Asp Val Glu Lys Glu Asn Lys Ala Leu His
      405              410              415
Gln Thr Val Thr Glu Ala Asn Gly Lys Leu
      420              425

```

&lt;210&gt; 3921

&lt;211&gt; 413

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3921

```

tctagaaagg tcaggcaccg gacagctgaa accatggcag ccggcaacag gaagtgcctt
60
ccctgggtgc tcaaagatcc aagacagccg ggcctgtgt ttgtaggaac aagattccag
120
atgcctctgc tgcttgccag cctcgtgacc ttcattcatg cagggccttg ttttcttgat
180
tcagtggggc caatcccggc cccagggga gatggatgct gcagggatgt gcaagctgta
240
gagggttcca gagaatgggc ctggcgttct gcaagcctgg caccctctct ggatgctttt
300
ctccagccct tggagcttag gcagtgtagt gttaggatga ttattggatt tcctccacag
360
ttcctggctc attcttttgt agcccttggt acagcctttt gtgataatat tgg
413

```

&lt;210&gt; 3922

&lt;211&gt; 126

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3922

```

Met Ala Ala Gly Asn Arg Lys Cys Pro Pro Trp Val Leu Lys Asp Pro
1      5      10      15
Arg Gln Pro Gly Pro Val Phe Val Gly Thr Arg Phe Gln Met Pro Leu
20      25      30
Leu Leu Ala Ser Leu Val Thr Phe Ile His Ala Gly Pro Cys Phe Leu
35      40      45
Asp Ser Val Gly Pro Ile Pro Ala Pro Arg Gly Asp Gly Cys Cys Arg
50      55      60
Asp Val Gln Ala Val Glu Gly Ser Arg Glu Trp Ala Trp Arg Ser Ala
65      70      75      80
Ser Leu Ala Pro Leu Leu Asp Ala Phe Leu Gln Pro Leu Glu Leu Arg
85      90      95
Gln Cys Ser Val Arg Met Ile Ile Gly Phe Pro Pro Gln Phe Leu Ala
100     105     110
His Ser Phe Val Ala Leu Val Thr Ala Phe Cys Asp Asn Ile
115     120     125

```

&lt;210&gt; 3923

&lt;211&gt; 820

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3923

ggctcgacccc cggccatggt gctggaccgt aggagatact gatccacact tccttttcgc  
 60  
 cggctcacag tccgcctctc attgtcgaac atgcgctgca actgcagagc caactgtcgg  
 120  
 tcttcttctc cttgctgaag cttctgctcc atctctcgca ggactgggtc tgttggggcc  
 180  
 agaccacact cccactgggt ttgtcgcagt tttttaaggg agccattttg ttctaagtgc  
 240  
 ttggtcttgc agtgtctttt ccggcctcga cgcaaagaag gaagtggctc ttcacttagg  
 300  
 ctctcaacta gaacaccatt agtcagatca aaatgattta atgtcttcaa ttgttgcttt  
 360  
 gttttgagga ctccacccaa aacactgttt tggggtagca ctgaattaac tgtggtgatt  
 420  
 ttcatggctc tgcttataca ggttttgtct aacttggcat ctggagtga ccctaacccc  
 480  
 tcaaactgct ccctctccaa agaagtccca ctgcctcccc ctttgagtgc tgaggaacag  
 540  
 caggtttcca gtgggatctc agtgetactt ttattatcac tgtcctgttc tgcttttgtt  
 600  
 tggctaacag aggggaaatg atcaagatca gcagaggtgg gtccagtata ctcagagagg  
 660  
 acctgcccac cagataatct tgtatttaca gccacaagtg gcttctcctt gctagaatgg  
 720  
 ataccttcag agcctagtaa ctcttcccc atttcaggag ccagagaggt aagagtggct  
 780  
 tttgaaaggg tctttttgat ctgccgctcc tgaaagatct  
 820

&lt;210&gt; 3924

&lt;211&gt; 250

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3924

Met Gly Glu Glu Leu Leu Gly Ser Glu Gly Ile His Ser Ser Lys Glu  
 1 5 10 15  
 Lys Pro Leu Val Ala Val Asn Thr Arg Leu Ser Gly Gly Gln Val Leu  
 20 25 30  
 Ser Glu Tyr Thr Gly Pro Thr Ser Ala Asp Leu Asp His Phe Pro Ser  
 35 40 45  
 Val Ser Gln Thr Lys Ala Glu Gln Asp Ser Asp Asn Lys Ser Ser Thr  
 50 55 60  
 Glu Ile Pro Leu Glu Thr Cys Cys Ser Ser Glu Leu Lys Gly Gly Gly  
 65 70 75 80  
 Ser Gly Thr Ser Leu Glu Arg Glu Gln Phe Glu Gly Leu Gly Ser Thr  
 85 90 95  
 Pro Asp Ala Lys Leu Asp Lys Thr Cys Ile Ser Arg Ala Met Lys Ile  
 100 105 110  
 Thr Thr Val Asn Ser Val Leu Pro Gln Asn Ser Val Leu Gly Gly Val

115	120	125
Leu Lys Thr Lys Gln Gln Leu Lys Thr Leu Asn His Phe Asp Leu Thr		
130	135	140
Asn Gly Val Leu Val Glu Ser Leu Ser Glu Glu Pro Leu Pro Ser Leu		
145	150	155
Arg Arg Gly Arg Lys Arg His Cys Lys Thr Lys His Leu Glu Gln Asn		
165	170	175
Gly Ser Leu Lys Lys Leu Arg Gln Thr Ser Gly Glu Val Gly Leu Ala		
180	185	190
Pro Thr Asp Pro Val Leu Arg Glu Met Glu Gln Lys Leu Gln Gln Glu		
195	200	205
Glu Glu Asp Arg Gln Leu Ala Leu Gln Leu Gln Arg Met Phe Asp Asn		
210	215	220
Glu Arg Arg Thr Val Ser Arg Arg Lys Gly Ser Val Asp Gln Tyr Leu		
225	230	235
Leu Arg Ser Ser Asn Met Ala Gly Gly Arg		
245	250	

&lt;210&gt; 3925

&lt;211&gt; 3296

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3925

```

nggagaactg gggacactct gggccggcct tctgcctgca tggacgctct gaagccaccc
60
tgtctctgga ggaaccacga gcgagggaag aaggacaggg actcgtgtgg caggaagaac
120
tcagagccgg gaagccccca ttcactagaa gcactgagag atgcggcccc ctcgcagggg
180
ctgaatttcc tgetgctgtt cacaagatg ctttttatct ttaacttttt gttttcccca
240
cttcgaccc cggtgtgat ctgcattctg acatttggag ctgccatctt cttgtggctg
300
atcaccagac ctcaaccgt cttacctt cttgacctga acaatcagtc tgtgggaatt
360
gagggaggag cacggaagg ggtttccag aagaacaatg acctaacaag ttgctgcttc
420
tcagatgcca agactatgta tgaggtttcc caaagaggac tcgctgtgtc tgacaatggg
480
ccctgcttgg gatatagaaa accaaaccag ccctacagat ggctatctta caaacagggt
540
tctgatagag cagagtacct gggttcctgt ctcttgcata aagggtataa atcatcacca
600
gaccagtttg tcggcatctt tgetcagaat aggcagagt ggatcatctc cgaattgggt
660
tgttacacgt actctatggg agctgtacct ctgtatgaca ccttgggacc agaagccatc
720
gtacatattg tcaacaaggc tgatatcgcc atggtgatct gtgacacacc ccaaaggca
780
ttggtgctga tagggaatgt agagaaaggc ttcaccccca gcctgaagggt gatcatcctt
840
atggaccctt ttgatgatga cctgaagcaa agaggggaga agagtggaaat tgagatctta
900

```

tccttatatg atgctgagaa cctagacaaa gagcacttca gaaaacctgt gcctcctagc  
960  
ccagaagacc tgagcgatcat ctgcttcacc agtgggacca caggtagacc caaaggagcc  
1020  
atgataaccc atcaaaaatat tgtttcaaat gctgctgcct ttctcaaatg tgtggagcat  
1080  
gcttatgagc ccactcctga tgatgtggcc atatcctacc tcctctggc tcatatgttt  
1140  
gagaggattg tacaggctgt tgtgtacagc tgtggagcca gagttggatt cttccaaggg  
1200  
gatattcggg tgctggctga cgacatgaag actttgaagc ccacattgtt tcccgcggtg  
1260  
cctcgactcc ttaacaggat ctacgataag gtacaaaatg aggccaagac acccttgaag  
1320  
aagttcttgt tgaagctggc tgtttccagt aaattcaaag agcttcaaaa gggatcatc  
1380  
aggcatgata gtttctggga caagctcatc tttgcaaaga tccaggacag cctgggcgga  
1440  
agggttcgtg taattgtcac tggagccgcc cccatctcca ctccagtctt gacattcttc  
1500  
cgggcagcaa tgggatgttg ggtgtttgaa gcttatggtc aaacagaatg cacagggtggc  
1560  
tgtacattta cattacctgg ggactggaca tcaggtcacg ttgggggtgcc cctggcttgc  
1620  
aattacgtga agctggaaga tgtggctgac atgaactact ttacagtga taatgaagga  
1680  
gaggtctgca tcaagggtac aaacgtgttc aaaggatacc tgaaggaccc tgagaagaca  
1740  
caggaagccc tggacagtga tggctggctt cacacaggag acattggtcg ctggctcccc  
1800  
aatggaactc tgaagatcat cgaccgtaaa aagaacattt tcaagctggc ccaaggagaa  
1860  
tacattgcac cagagaagat agaaaatatc tacaacagga gtcaaccagt gttacaaatt  
1920  
tttgtacagc gggagagctt acggtcatcc ttagtaggag tgggtggtcc tgacatagat  
1980  
gtacttcctt cttttgcagc caagcttggg gtgaagggtt cctttgagga actgtgccaa  
2040  
aaccaagttg taagggaagc ctttttagaa gacttgacga aaattgggaa agaaagtggc  
2100  
cttaaaactt ttgaacaggc caaagccatt tttcttcac cagagccatt ttccattgaa  
2160  
aatgggctct tgacaccaac attgaaagca aagcgaggag agctttccaa atactttcgg  
2220  
acccaaattg acagcctgta tgagcacatc caggattagg ataaggact taagtacctg  
2280  
cgggcccact gtgcactgct tgtgagaaaa tggattaaaa actattctta ctttgtttt  
2340  
gcctttcttc ctattttttt ttaacctgtt aaactctaaa gccatagctt ttgttttata  
2400  
ttgagacata taatgtgtaa acttagttcc caaataaatc aatcctgtct ttccatctt  
2460  
cgatgttgct aatattaagg cttcagggtt acttttatca acatgcctgt cttcaagatc  
2520

ccagtttatg ttctgtgtcc ttcctcatga tttccaacct taatactatt agtaaccaca  
 2580  
 agttcaaggg tcaaagggac cctctgtgcc ttcttctttg tttgtgata aacataaact  
 2640  
 gccaacagtc tctatgctta tttacatctt ctactgttca aactaagaga tttttaaatt  
 2700  
 ctgaaaaact gcttacaatt catgttttct agccactcca caaaccacta aaattttagt  
 2760  
 tttagcctat cactcatgtc aatcatatct atgagacaaa tgtctccgat gctcttctgc  
 2820  
 gtaaattaaa ttgtgtactg aagggaaaag tttgatcata ccaaacattt cctaaactct  
 2880  
 ctagttagat atctgacttg ggagtattaa aaattgggtc tatgacatac tgtccaaaag  
 2940  
 gaatgctgtt cttaaagcat tatttacagt aggaactggg gagtaaatct gttccctaca  
 3000  
 gtttctgtct gagctggaag ctgtggggga aggagtgtac aggtgggccc agtgaacttt  
 3060  
 tccagtaa at gaagcaagca ctgaataaaa acctcctgaa ctgggaacaa agatctacag  
 3120  
 gcaagcaaga tgccacaca acaggcttat tttctgtgaa ggaaccaact gatctcccc  
 3180  
 acccttggat tagagttcct gctctacctt acccacagat aacacatgct gtttctactt  
 3240  
 gtaaatgtaa agtctttaaa ataaactatt acagatactt aaaaaaaaaa aaaaaa  
 3296

&lt;210&gt; 3926

&lt;211&gt; 683

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3926

Met	Leu	Phe	Ile	Phe	Asn	Phe	Leu	Phe	Ser	Pro	Leu	Pro	Thr	Pro	Ala
1				5					10					15	
Leu	Ile	Cys	Ile	Leu	Thr	Phe	Gly	Ala	Ala	Ile	Phe	Leu	Trp	Leu	Ile
		20					25					30			
Thr	Arg	Pro	Gln	Pro	Val	Leu	Pro	Leu	Leu	Asp	Leu	Asn	Asn	Gln	Ser
	35					40					45				
Val	Gly	Ile	Glu	Gly	Gly	Ala	Arg	Lys	Gly	Val	Ser	Gln	Lys	Asn	Asn
	50				55				60						
Asp	Leu	Thr	Ser	Cys	Cys	Phe	Ser	Asp	Ala	Lys	Thr	Met	Tyr	Glu	Val
65				70					75					80	
Phe	Gln	Arg	Gly	Leu	Ala	Val	Ser	Asp	Asn	Gly	Pro	Cys	Leu	Gly	Tyr
		85					90						95		
Arg	Lys	Pro	Asn	Gln	Pro	Tyr	Arg	Trp	Leu	Ser	Tyr	Lys	Gln	Val	Ser
	100						105					110			
Asp	Arg	Ala	Glu	Tyr	Leu	Gly	Ser	Cys	Leu	Leu	His	Lys	Gly	Tyr	Lys
	115					120					125				
Ser	Ser	Pro	Asp	Gln	Phe	Val	Gly	Ile	Phe	Ala	Gln	Asn	Arg	Pro	Glu
	130					135				140					
Trp	Ile	Ile	Ser	Glu	Leu	Ala	Cys	Tyr	Thr	Tyr	Ser	Met	Val	Ala	Val
145				150					155					160	
Pro	Leu	Tyr	Asp	Thr	Leu	Gly	Pro	Glu	Ala	Ile	Val	His	Ile	Val	Asn

165 170 175  
 Lys Ala Asp Ile Ala Met Val Ile Cys Asp Thr Pro Gln Lys Ala Leu  
 180 185 190  
 Val Leu Ile Gly Asn Val Glu Lys Gly Phe Thr Pro Ser Leu Lys Val  
 195 200 205  
 Ile Ile Leu Met Asp Pro Phe Asp Asp Asp Leu Lys Gln Arg Gly Glu  
 210 215 220  
 Lys Ser Gly Ile Glu Ile Leu Ser Leu Tyr Asp Ala Glu Asn Leu Asp  
 225 230 235 240  
 Lys Glu His Phe Arg Lys Pro Val Pro Pro Ser Pro Glu Asp Leu Ser  
 245 250 255  
 Val Ile Cys Phe Thr Ser Gly Thr Thr Gly Asp Pro Lys Gly Ala Met  
 260 265 270  
 Ile Thr His Gln Asn Ile Val Ser Asn Ala Ala Ala Phe Leu Lys Cys  
 275 280 285  
 Val Glu His Ala Tyr Glu Pro Thr Pro Asp Asp Val Ala Ile Ser Tyr  
 290 295 300  
 Leu Pro Leu Ala His Met Phe Glu Arg Ile Val Gln Ala Val Val Tyr  
 305 310 315 320  
 Ser Cys Gly Ala Arg Val Gly Phe Phe Gln Gly Asp Ile Arg Leu Leu  
 325 330 335  
 Ala Asp Asp Met Lys Thr Leu Lys Pro Thr Leu Phe Pro Ala Val Pro  
 340 345 350  
 Arg Leu Leu Asn Arg Ile Tyr Asp Lys Val Gln Asn Glu Ala Lys Thr  
 355 360 365  
 Pro Leu Lys Lys Phe Leu Leu Lys Leu Ala Val Ser Ser Lys Phe Lys  
 370 375 380  
 Glu Leu Gln Lys Gly Ile Ile Arg His Asp Ser Phe Trp Asp Lys Leu  
 385 390 395 400  
 Ile Phe Ala Lys Ile Gln Asp Ser Leu Gly Gly Arg Val Arg Val Ile  
 405 410 415  
 Val Thr Gly Ala Ala Pro Ile Ser Thr Pro Val Leu Thr Phe Phe Arg  
 420 425 430  
 Ala Ala Met Gly Cys Trp Val Phe Glu Ala Tyr Gly Gln Thr Glu Cys  
 435 440 445  
 Thr Gly Gly Cys Thr Phe Thr Leu Pro Gly Asp Trp Thr Ser Gly His  
 450 455 460  
 Val Gly Val Pro Leu Ala Cys Asn Tyr Val Lys Leu Glu Asp Val Ala  
 465 470 475 480  
 Asp Met Asn Tyr Phe Thr Val Asn Asn Glu Gly Glu Val Cys Ile Lys  
 485 490 495  
 Gly Thr Asn Val Phe Lys Gly Tyr Leu Lys Asp Pro Glu Lys Thr Gln  
 500 505 510  
 Glu Ala Leu Asp Ser Asp Gly Trp Leu His Thr Gly Asp Ile Gly Arg  
 515 520 525  
 Trp Leu Pro Asn Gly Thr Leu Lys Ile Ile Asp Arg Lys Lys Asn Ile  
 530 535 540  
 Phe Lys Leu Ala Gln Gly Glu Tyr Ile Ala Pro Glu Lys Ile Glu Asn  
 545 550 555 560  
 Ile Tyr Asn Arg Ser Gln Pro Val Leu Gln Ile Phe Val His Gly Glu  
 565 570 575  
 Ser Leu Arg Ser Ser Leu Val Gly Val Val Pro Asp Thr Asp Val  
 580 585 590  
 Leu Pro Ser Phe Ala Ala Lys Leu Gly Val Lys Gly Ser Phe Glu Glu



```

      595              600              605
Leu Cys Gln Asn Gln Val Val Arg Glu Ala Ile Leu Glu Asp Leu Gln
      610              615              620
Lys Ile Gly Lys Glu Ser Gly Leu Lys Thr Phe Glu Gln Val Lys Ala
625              630              635              640
Ile Phe Leu His Pro Glu Pro Phe Ser Ile Glu Asn Gly Leu Leu Thr
      645              650              655
Pro Thr Leu Lys Ala Lys Arg Gly Glu Leu Ser Lys Tyr Phe Arg Thr
      660              665              670
Gln Ile Asp Ser Leu Tyr Glu His Ile Gln Asp
      675              680

```

&lt;210&gt; 3927

&lt;211&gt; 3197

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3927

```

cagagcccca tgaattaggt cccctcaatg gggacacagc tataactgtc cagctctgtg
60
catcagagga ggctgagcgg caccagaagg atataaccag aattctccag caacatgagg
120
aggaaaagaa gaaatgggca caacaggtgg agaaggaaag ggagctagag cttcgagaca
180
gactggatga gcagcaaagg gtcctggaag gaaagaatga agaggccctg caagtccctc
240
gggcctcata tgaacaggag aaagaagcgc ttaccactc tttccgggag gccagttcta
300
cccagcagga gaccatagac agactgacct cacagctgga ggctttccag gccaaaatga
360
agagggtgga ggagtccatt ctgagccgaa actataagaa acatatccag gattatggga
420
gccccagcca gttctgggag caggagctgg agagcttaca ctttgtcatc gagatgaaga
480
atgagcgtat tcatgagctg gacaggcggc tgatcctcat ggaaacagtg aaagagaaaa
540
atctgatatt ggaggaaaaa attacgaccc tgcaacagga aaatgaggac ctccatgtcc
600
gaagccgcaa ccaggtggtc ctgtcaaggc agctgtcaga agacctgctt ctcacgcgtg
660
aggccctgga gaaggaggtg cagctgcggc gacagctcca gcaggagaag gaggagctgt
720
tgtaccgggt ccttggggcc aatgcctcgc ctgccttccc tctggcccct gtcactccca
780
ctgaggtctc tttcctcgcc acataggtg cagggcctgg gccaccacg acgctgaag
840
tcacagctcc ttccaaggtt tttctggaga agacagcagg agcctctcag ttcttttcca
900
ggaaggaacg aggggtgggag cgagatggag atcctgggtg tgtgcccagt gagccctggg
960
gccttgagtt acatggaatc acccacaggg ttttggaggc cccgagaagc gtcttccctt
1020
gagttggcca agggaataag caagaggaga catttctccc ctgccccagc actctgtccc
1080

```

aatccgagaa gttccgagge tttcccaggg gcagtctgtg tcacgctggc catttgacat  
1140  
aaaggagaca gcccctgggc ccagcttgct agctctgctg ccgacttgct gacttatcaa  
1200  
cttccctctag gtgtttccac tccaccctgg cctgctcaga gcctcagttt acccctgcat  
1260  
taaaatggtg gggggactgg tcaaaggact cttatgtcac tgcagtgtcc cattctagga  
1320  
ttgtctgaag gccagagtag ggggtggggg gagtgtggac aaaccccgca aatcagagt  
1380  
gggaagggtga gtggtggaga ggggttctct gaaggccctt ggggctgaca gggccaggca  
1440  
gcctccccag ctgaggcacc attcctgggc cagagtcgtg tccaccaagg gacagtagcc  
1500  
agagctcctc ttcctttacc aggcaagggt catccctca gccctcctgg cccttcagtc  
1560  
ttggtgccac ctgggcacag gggcaagctt ggtggttgtg agtccattca tctatcagag  
1620  
ctggaacctc atccctgcac agatgaggaa accaaggcat ggagcagttc ccagagtcga  
1680  
atctagatct catctgtcat ccgggtctta tcccttgctc tgtttttctc ttcaggtct  
1740  
ggaaaatcag atctgtgact taatcctctc cctggccctc acccacttag tttcttttct  
1800  
attcctgctc cctgccttaa ctccctctcc cactgcccct gatcccagge ccaggctttt  
1860  
acaacctggt gctcagcttc cccatcagtg aaaaggggtg gctagagtaa ctaacctcag  
1920  
caggccgtcc agtccgtata gtctgtggat ttcggatcct tctcaggaag cttcatgtct  
1980  
aatggagact ataattataa ctccctgtct gcatagagca tttgcatcaa aggccttcca  
2040  
taccctccc tcccctgggc ctcataagat ccttgaagca ggttcctatt cctcattggc  
2100  
aacatggcaa acagatcaca ggagtcaaag ggccttgctc aagggtccca gcttcagccc  
2160  
caggccctaa gccagcgtca gaacagtcaa tctgcatttt tcatcagtc tctatagtg  
2220  
acatcatccc agactgcctt ctgtattccc ctgtgtacag tctccttctg tttctagggt  
2280  
tagaagttca gaggtgactg tgtttctcca tttccacagc caaatggggg aagaggtgag  
2340  
gctaggggag tgctgtgctg attctccagc catggtcaga caggtcaccc aggagcctcg  
2400  
aggaaagccc tggagggaat cacatgtgta ctttttcatg aagctttttg caaagcacat  
2460  
ctgcatata ctagtttatt gaactaatgt ccaggagtag acatgattgg tggccaagtt  
2520  
atgtggggac acctaaacag atcagtgacc tgaatgactt ctcaaacct ttaatatgcc  
2580  
aatgtgtgtg gcaaacttac aagaaggag ctaagtatcc agcctctccc aaacctcttt  
2640  
gaacaaagct tctgtccctc ccacacctct cacctcacag gcacatcagg ctgcagaatg  
2700

cgctttagaa agcattgttt tagtccaggc acagtggctc acgcctgtaa tcccagcact  
 2760  
 ttgggaggcc gaggtgggtg gatcacaagg ttgggagatt gagaccatcc tggctaacac  
 2820  
 agtgaaaccc tgtctctact aaaaaaatac aaaaaattag cttggcgtgg tgggtgggcgc  
 2880  
 ctgtagtccc agcagcttgg gaggctgagg ctggagaatg gtgtgaaccc aggaggcgga  
 2940  
 gcttgcaagt agccaagatc gcgccactgc actccagccc ggggtgacaga gcaagactcc  
 3000  
 gtctcaaaaa aaagaaaaga aaaaagaaag cattgtttta attgagaggg gcagggctgg  
 3060  
 agaaggagca agttgtgggg agccaggctt ccctcacgca gcctgtggtg gatgtgggaa  
 3120  
 ggagatcaac ttctcctcac tctgggacag acgatgtatg gaaactaaaa agaacatgcg  
 3180  
 gcaccttaaa aaaaaaa  
 3197

&lt;210&gt; 3928

&lt;211&gt; 180

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3928

Met	Ser	Glu	Ala	Ala	Thr	Arg	Trp	Ser	Cys	Gln	Gly	Ser	Cys	Gln	Lys
1				5					10					15	
Thr	Cys	Phe	Ser	Arg	Val	Arg	Pro	Trp	Arg	Arg	Arg	Cys	Ser	Cys	Gly
			20					25					30		
Asp	Ser	Ser	Ser	Arg	Arg	Arg	Arg	Ser	Cys	Cys	Thr	Gly	Ser	Leu	Gly
		35					40					45			
Pro	Met	Pro	Arg	Leu	Pro	Ser	Leu	Trp	Pro	Leu	Ser	Leu	Pro	Leu	Arg
	50					55					60				
Ser	Leu	Ser	Ser	Pro	His	Arg	Val	Gln	Gly	Leu	Gly	Pro	Pro	Arg	Arg
65					70				75					80	
Leu	Lys	Ser	Gln	Leu	Leu	Pro	Arg	Phe	Phe	Trp	Arg	Arg	Gln	Gln	Glu
			85						90					95	
Pro	Leu	Ser	Ser	Phe	Pro	Gly	Arg	Asn	Glu	Gly	Gly	Ser	Glu	Met	Glu
			100					105					110		
Ile	Leu	Gly	Val	Cys	Pro	Val	Ser	Pro	Gly	Ala	Leu	Ser	Tyr	Met	Glu
		115					120					125			
Ser	Pro	Thr	Gly	Phe	Trp	Arg	Pro	Arg	Glu	Ala	Ser	Ser	Leu	Glu	Leu
	130					135					140				
Ala	Lys	Gly	Ile	Ser	Lys	Arg	Arg	His	Phe	Leu	Pro	Ala	Pro	Ala	Leu
145					150				155					160	
Cys	Pro	Asn	Pro	Arg	Ser	Ser	Glu	Ala	Phe	Pro	Gly	Ala	Val	Cys	Val
				165					170					175	
Thr	Leu	Ala	Ile												
			180												

&lt;210&gt; 3929

&lt;211&gt; 470

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3929

ntcctttctt tagccagcca tcctggtact gtagtttagg ggttgatggt ggttgaaatt  
 60  
 gatttctggc tggttactaa ggtgtctggc tgactttgtc ctaaataagg ctaacattag  
 120  
 tgaactaaga acagcgccac gtggtggcca tgcttggtct tcaggagcac ccctccccga  
 180  
 tgcgctggca ggagcgcccc actttccggt ccagattcac agtctgagaa tgaggcttca  
 240  
 ccagtaaaac ggccacgact acttgagaat acggaacggt ccgaggaaac cagtcgatct  
 300  
 aaacagaaga gtcgacgtcg gtgcttccag tgccaaacca aactggagct ggtgcagcag  
 360  
 gaattgggat cgtgtcgtg cggttatgtg ttctgtatgt tacatcgctt ccccgagcag  
 420  
 cagactgca cattcgacca catgggcgtg gccgggagaa gccatcatga  
 470

&lt;210&gt; 3930

&lt;211&gt; 115

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3930

Thr	Lys	Asn	Ser	Val	Thr	Trp	Trp	Pro	Cys	Leu	Val	Phe	Arg	Ser	Thr
1				5					10					15	
Pro	Pro	Arg	Cys	Ala	Gly	Arg	Ser	Ala	Pro	Leu	Ser	Gly	Pro	Asp	Ser
			20					25					30		
Gln	Ser	Glu	Asn	Glu	Ala	Ser	Pro	Val	Lys	Arg	Pro	Arg	Leu	Leu	Glu
		35					40					45			
Asn	Thr	Glu	Arg	Ser	Glu	Glu	Thr	Ser	Arg	Ser	Lys	Gln	Lys	Ser	Arg
	50				55						60				
Arg	Arg	Cys	Phe	Gln	Cys	Gln	Thr	Lys	Leu	Glu	Leu	Val	Gln	Gln	Glu
65				70					75					80	
Leu	Gly	Ser	Cys	Arg	Cys	Gly	Tyr	Val	Phe	Cys	Met	Leu	His	Arg	Leu
			85					90					95		
Pro	Glu	Gln	His	Asp	Cys	Thr	Phe	Asp	His	Met	Gly	Val	Ala	Gly	Arg
			100					105					110		
Ser	His	His													
			115												

&lt;210&gt; 3931

&lt;211&gt; 3568

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3931

nnactagtagt agtgagggaa tttagacaaa tntcattggt tactggtaca ctgacctaac  
 60  
 atgctgtgtg gaccaacaca aatgaaacca taagacaata cttcccaaat attttaattt  
 120  
 tgaaatagat atacttaatg gctgatgacc cagtatcttt ggtgtcctct aaccacatta  
 180

gcattctata atttcaaatg aaatctatac tttaaaaaca attaatgtca aattttgtca  
240  
taatatctga ctttcaggcc aacttttaat gttagtacaa tttaaaataa aaagtcatta  
300  
acatttttaat gtaatactga ataattctct gtggaattta tcttttacat ttttttcctt  
360  
ttaagcaaaa agagatttac agtttataat ggtaaagact ctactacttc agaatcaaag  
420  
ccaaatcaat attacttaat aattcaggga aaatttagat aaaatcacta gacaacggta  
480  
aactgatatt cttatctact cataaaatta tttttgaatt gcaaacgaac cgctatgcgt  
540  
ggctaattta ggaagaaaaa tttttttttt tttttttgag actgagtcct gctctgtcac  
600  
caggctggaa tgcagtggcg tgatcttggc tcaatgcaac ctccacctcc caggttcaag  
660  
cgattctctg gcctcagcct cttgactagc tgggactaca ggtgtgtgcc accacatcca  
720  
gctaattttt gtatttttag tagagacggg gtttcaccat gttggccagg atggtctcaa  
780  
cctcttgacc tcgtgatcca cctgcctcgg tctcccaaag tgggtgggatt acaggcgtga  
840  
gccactgtgc ccagccagaa aagcattttt aatagaattt tgatagctct taactgagat  
900  
cctaaatcaa ggatttagaa atgaggtatc ataaagaata gtaagatttt aaagctctca  
960  
aaattacata tgatacaaat aaagattgta acagtattta atcattgttt caaactttat  
1020  
tacttaatga aacagtttct atatactgct tccaattact ttaatccttt tttctcgtta  
1080  
aatttttttt gttgttcttc agttgagctg agatactttt aattactttt tattaactgc  
1140  
ttccagaaac cgtaacagggt gcaggaatag attgatgata tccaagtaga ggctgatggc  
1200  
agctaatacg tactcttcag gtgacagttt atgcatcagt gagtgtgtgt catagatgat  
1260  
gaatccacag aaaagaaggg ctctgcagc ggctaagacc aactccatta tctcactata  
1320  
aaaaaaaaac ttcaagaatc ctgacaggca caatatccac aaaagagcaa acagccctgc  
1380  
tccaaatttg ctgaaatcct tcttagattg tagagtatac acagtcaaac caaaaaatac  
1440  
tgtagtagtc agtatgaaag cttgcagaat aatatataca tcatagaaag taacaacaac  
1500  
tgccacagtc agagcttcca acagcgtaaa tccaaaaagt aggtacagggt taaggggata  
1560  
cttatgtctg tttaaaatca acgcaaaaat caaaccaga gatccgaggg caaacagcaa  
1620  
aattaaggca ggactctcat gtacaaatgt ccgtacagac tcaaagtata aaaaaactgt  
1680  
tgaagtcact gtagttaaga gaacctgcag agaaagaatg ctgtagactt ttctcagaaa  
1740  
ggctgtattt taccacaatt aatttttttt aaaaaaagc tgagttcact ggccaaaata  
1800

atttcaaaat tcaattccaa aaatataaat gctaggcacc aagattcttg gtgcatcaga  
1860  
actatcttca tctttccttt tccagaacaa gttctaggca ctaagattct tagcacatca  
1920  
gaactatctt catctttcct tttccagaac aagtccagc tgcctaaaca ggctgaaagt  
1980  
ctggggctgt ttcggcgatc aaatgaccaa actagagcag gcaatggctt ccacgtagat  
2040  
gaagctgagc attttaaatt caaaaatttc tgcccattgg ctactacgta ataacttaaa  
2100  
acacaattta gactgactta ggaagcttct gtgttgagca acttctcaa taatcctcaa  
2160  
agacctgttg cattctgggc cccattcgga tgtgcatggg ggcggaggcc aactgctgc  
2220  
cattattgga agtcgtcttc gatcgaggag cgagggtact gggggtcggg gtcagccatc  
2280  
atggcaccag cacccttccg gtcccagtcc actcgtcct cgatcgagga cgacttcaac  
2340  
tatggcagca gcgtggcctc cgccaccgtg cacatccgaa tggcctttct gagaaaagtc  
2400  
tacagcatte tttctctgca ggttctctta actacagtga cttcaacagt tttttatac  
2460  
tttgagtctg tacggacatt tgtacatgag agtctgcct taattttgct gtttgcctc  
2520  
ggatctctgg gtttgatttt tgcgttgact ttaaacagac ataagtatcc ccttaacctg  
2580  
tacctacttt ttggatttac gctgttgga gctctgactg tggcagttgt tgttactttc  
2640  
tatgatgtat atattattct gcaagcttcc atactgacta ctacagtatt ttttggttg  
2700  
actgtgtata ctctacaatc taagaaggat ttcagcaa at ttggagcagg gctgtttgct  
2760  
cttttggtga tattgtgcct gtcaggattc ttgaagtttt tttttatag tgagataatg  
2820  
gagttggtct tagccgctgc aggagccctt cttttctgtg gattcatcat ctatgacaca  
2880  
cactcactga tgcataaact gtcacctgaa gagtacgtat tagctgccat cagcctctac  
2940  
ttggatatca tcaatctatt cctgcacctg ttacggtttc tggaagcagt taataaaaag  
3000  
taattaaaag tatctcagct caactgaaga acaacaaaaa aaatttaacg agaaaaaagg  
3060  
attaaagtaa ttggaagcag tatatagaaa ctgtttcatt aagtaataaa gtttgaaaca  
3120  
atgattaaat actgttacia tctttatttg tatcatatgt aattttgaga gctttaaaat  
3180  
cttactatc tttatgatac ctcatctcta aatccttgat ttaggatctc agttaagagc  
3240  
tatcaaaatt ctattaaaaa tgcttttctg gctgggcaca gtggctcacg cctgtaatcc  
3300  
caccactttg ggagaccgag gcagggtgat cacgaggcca agagggtgag accatcctgg  
3360  
ccaacatggt gaaaccccg ctctactaaa aatacaaaaa ttagctggat gtggtggcac  
3420

acacctgtag tcccagctag tcaagaggct gaggccagag aatcgcttga acctgggagg  
 3480  
 tggaggttgc attgagccaa gatcacgcca ctgcattcca gcctggtgac agagcgagac  
 3540  
 tcagtctcaa aaaaaaaaaa aaaaaaaaa  
 3568

<210> 3932

<211> 293

<212> PRT

<213> Homo sapiens

<400> 3932

Glu	Ala	Ser	Val	Leu	Ser	Asn	Phe	Leu	Asn	Asn	Pro	Gln	Arg	Pro	Val
1				5					10					15	
Ala	Phe	Trp	Ala	Pro	Phe	Gly	Cys	Ala	Trp	Trp	Arg	Arg	Pro	His	Cys
			20					25					30		
Cys	His	Tyr	Trp	Lys	Ser	Ser	Ser	Ile	Glu	Glu	Arg	Gly	Tyr	Trp	Gly
	35						40					45			
Ser	Gly	Ser	Ala	Ile	Met	Ala	Pro	Ala	Pro	Phe	Arg	Ser	Gln	Ser	Thr
	50					55					60				
Arg	Ser	Ser	Ile	Glu	Asp	Asp	Phe	Asn	Tyr	Gly	Ser	Ser	Val	Ala	Ser
65					70					75				80	
Ala	Thr	Val	His	Ile	Arg	Met	Ala	Phe	Leu	Arg	Lys	Val	Tyr	Ser	Ile
				85					90					95	
Leu	Ser	Leu	Gln	Val	Leu	Leu	Thr	Thr	Val	Thr	Ser	Thr	Val	Phe	Leu
			100					105					110		
Tyr	Phe	Glu	Ser	Val	Arg	Thr	Phe	Val	His	Glu	Ser	Pro	Ala	Leu	Ile
		115					120					125			
Leu	Leu	Phe	Ala	Leu	Gly	Ser	Leu	Gly	Leu	Ile	Phe	Ala	Leu	Thr	Leu
	130				135						140				
Asn	Arg	His	Lys	Tyr	Pro	Leu	Asn	Leu	Tyr	Leu	Leu	Phe	Gly	Phe	Thr
145					150					155				160	
Leu	Leu	Glu	Ala	Leu	Thr	Val	Ala	Val	Val	Val	Thr	Phe	Tyr	Asp	Val
				165					170					175	
Tyr	Ile	Ile	Leu	Gln	Ala	Phe	Ile	Leu	Thr	Thr	Thr	Val	Phe	Phe	Gly
			180				185						190		
Leu	Thr	Val	Tyr	Thr	Leu	Gln	Ser	Lys	Lys	Asp	Phe	Ser	Lys	Phe	Gly
	195						200					205			
Ala	Gly	Leu	Phe	Ala	Leu	Leu	Trp	Ile	Leu	Cys	Leu	Ser	Gly	Phe	Leu
	210					215					220				
Lys	Phe	Phe	Phe	Tyr	Ser	Glu	Ile	Met	Glu	Leu	Val	Leu	Ala	Ala	Ala
225					230					235				240	
Gly	Ala	Leu	Leu	Phe	Cys	Gly	Phe	Ile	Ile	Tyr	Asp	Thr	His	Ser	Leu
			245						250					255	
Met	His	Lys	Leu	Ser	Pro	Glu	Glu	Tyr	Val	Leu	Ala	Ala	Ile	Ser	Leu
			260					265					270		
Tyr	Leu	Asp	Ile	Ile	Asn	Leu	Phe	Leu	His	Leu	Leu	Arg	Phe	Leu	Glu
	275					280						285			
Ala	Val	Asn	Lys	Lys											
	290														

<210> 3933

<211> 4082

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3933

tgaggtaact gacgatgaga tggcaacccg aaaggccaag atgcacaaag agtgtcgaag  
60  
ccggagtggg tctgatcctc aagacattaa tgaacaagaa gatcagagggt gaatgccatc  
120  
gctaaccctc caaacccccct cccttcacaga agagcccact ctttgaccac agctgggtcc  
180  
cccaacttgg ctgccgggac gtcattctccc atcaggccag tgcctctccc tgtgctgtct  
240  
tcttcaaaca agagcccatc cagtgtcttg agcagtagta gctggcacgg gcggatcaaa  
300  
ggcggcatga agggatttca gagcttcatg gtttcagata gcaacatgag ttttgttgaa  
360  
tttgttgagc tgttcaaatac attcagtgtc aggagccgca aggacctgaa ggatctgttt  
420  
gatngtctat gcagtgcctt gcaaccgnat ctggctccga gtcagcccca ctctacacca  
480  
acctgacaat tgatgaaaac accagcgatc ttcagcctga ccntaggttt gttgaccaga  
540  
aatgtctcgg atttgggggt gttcattaag agtaaacagc agctatcggg caaccagagg  
600  
cagatatctg atgccattgc tgctgcaagc attgtgacaa atggcactgg gattgagagc  
660  
acatctctgg gcatttttgg ggtgggcata cttcagctca acgatttcct cgtgaattgc  
720  
caaggagaac actgcactta tgatgaaatc ctcagcatca tccagaagtt cgagcctagc  
780  
atcagtatgt gtcattcagg actaatgtca tttgaagggt ttgccagggt tctgatggat  
840  
aaagaaaatt ttgcctcaaa aaatgatgag tcacaggaga acattaaaga actgcagcta  
900  
cccctctcat actattacat cgaatcttcg cacaatacct acctcacggg ccatcagctc  
960  
aaaggagaat cctcggtaga actctacagc caggctcctt tgcaaggctg tcgaagtgtg  
1020  
gaattggact gctgggacgg agacgatggg atgcccacatc tttatcatgg acatacgtg  
1080  
acaaccaaga tccccttcaa ggaagtgggt gaagccattg atcgcagtgc cttcatcaac  
1140  
tctgacctgc caatcatcat atcgattgag aaccactggt cattgcctca gcaacgaaaa  
1200  
atggcagaaa ttttcaagac tgtgtttgga gaaaagctgg tgactaaatt cttatttgag  
1260  
actgatttct cagatgatcc aatgcttcct tcacctgacc aactcagaaa gaaagtctt  
1320  
cttaaaaaaca agaagctaaa agcccatcag acgcccagg atatcttaaa gcaaaaggct  
1380  
catcagttag catctatgca agtgcaggct tataatgggt ggaatgccaa cccccgacct  
1440  
gccaaataatg aggaagagga agatgaggag gacgaatatg attatgacta tgaatccctt  
1500



tctgatgaca acatttctgga agacagacct gaaaataaat catgtaatga caagcttcag  
1560  
tttgaatata atgaagaaat cccaaagagg ataaagaaag cagataactc tgcttgcaac  
1620  
aaaggaaagg tttatgatat ggaactggga gaagaatttt atcttgatca gaataaaaag  
1680  
gaaagcagac agattgcacc agagctttct gaccttgtaa tctattgtca agcagtaaaa  
1740  
nntttccagg actgtcaact ctaaatgcat ctggctctag cagaggaaaa gaaaggaaaa  
1800  
gcaggaagtc catttnttgg caacaatccg ggcagaatga gcccagggga gacagcatca  
1860  
tttaacaaaa catctggaaa annagttcct gtgaaggcat tcgacagacc tngggaggaa  
1920  
tcttcttccc ctctcaaccc aaccacgtcc ctcatgtcta tcattagaac tcccaaatgt  
1980  
tatcatatct cgtcgctgaa tgaaaatgcc gccaaacgtc tgtgtcgcag gtattctcag  
2040  
aaactgaccc agcacaccgc ctgtcagctg ctgagaactt accctgctgc caccgcac  
2100  
gactcttcca acccgaaccc cctcatgttc tggctccatg ggatacagct tgtggcactc  
2160  
aactaccaga ctgatgatct ccctttacat ttaaagtctg caatgtttga ggcaaatggt  
2220  
ggttgtggtt atgtattgaa acctccagtt ctgtgggaca agaactgccc catgtatcag  
2280  
aagttttctc cactagaaag agatctggac agcatggatc ctgcagtcta ttctttaact  
2340  
attgtctctg gtcagaatgt gtgccccagt aatagcatgg gaagcccgtg cattgaagtc  
2400  
gacgtcctgg gcatgcctct ggacagctgc catttccgca caaagcccat ccatcgaaac  
2460  
acctgaacc ccatgtggaa cgagcagttt ctgttccgcg ttcacttcga agatcttgta  
2520  
tttcttcgtt ttgcagttgt ggaaaacaat agttcagcgg taactgctca gagaatcatt  
2580  
ccactgaaag ctttaaaacg aggatatcga catcttcagc tgcgaaacct tcacaatgaa  
2640  
gtcttggaaga tttctagttt attcattaac agcagaagga tggaagaaga ttcctctggc  
2700  
aataccatgt cagcctcttc gatgtttaat acagaagaaa gaaaatgttt gcgactcac  
2760  
agagtcacgg tgcattgggt cccagggcca gagcccttta ccgttttcac tattaatgga  
2820  
ggcaccaagg caaagcagct tctgcagcaa attctgacaa atgaacaaga catcaaacct  
2880  
gttaccacag actatttttt gatggaagaa aaatatttta tatctaaaga aaagaatgaa  
2940  
tgtaggaaac aaccattcca gagagccatt ggtccagaag aggagatcat gcaaatttta  
3000  
agcagctggt ttccagaaga gggatacatg ggcaggattg tcttaaaaac ccagcaggaa  
3060  
aacctagaag agaaaaacat tgttcaagat gacaaagagg tgatcttgag ctgagaggag  
3120

gagagtttct ttgtccaagt gcatgatgtt tctccagagc aacctcgaac agtcatcaaa  
 3180  
 gcaccccgcg tcagcactgc acaggatgtc attcagcaga ccttatgcaa agccaaatat  
 3240  
 tcctacagca tcctgagcaa cccaatcca agcgactatg tgcttttgga agagggtggtg  
 3300  
 aaagacacta ccaacaagaa gactaccaca ccaaagtcct ctcagcgggt ccttctggat  
 3360  
 caggagtgtg tgtttcaagc ccaaagcaag tggaaagggtg caggaaaatt catccttaag  
 3420  
 ctaaaggagc aggtgcaggc atctcgagaa gataaaaaga aaggcatttc tttcgcaagt  
 3480  
 gaactcaaga agctcaccaa gtcaactaaa cagccccgag gacttacatc accttctcag  
 3540  
 ctcttgacct cagaaagtat ccaaaccaag gaggagaaac ctgtgggtgg cttgtcctcc  
 3600  
 agtgacacaa tggattaccg acagtgacta agggcagcat gtttaaccca ggtgaagatc  
 3660  
 ttttaagcaag aagttaaaga gtgaacatgg tggaaaaaat ataattattt tcatcagact  
 3720  
 taaactggaa attgatgatt tctgaactga agccttcaca catgtgagat ccatgctgag  
 3780  
 gagaagcaaa atggcacagg gctagttgcc accaaccaat ttactgatga atgaagccca  
 3840  
 ggggactgcc attttataaa tgtcagcagt tggaaaaatc gtcacgaatt gacttagagc  
 3900  
 aagggtcagc aagcttgtct gttaaagggcc aaacagtaaa tatttttaggg ctggggggcca  
 3960  
 taaaatatgt tgcaaccacc caattctgcc attgtagtgc aaaagcagcc atagacaaca  
 4020  
 catacatgaa cgaacgtggc tgtattccaa taaaacttta tttatggaca ctgaaaaaaa  
 4080  
 aa  
 4082

<210> 3934

<211> 130

<212> PRT

<213> Homo sapiens

<400> 3934

Thr	Arg	Arg	Ser	Glu	Val	Asn	Ala	Ile	Ala	Asn	Pro	Pro	Asn	Pro	Leu
1					5				10					15	
Pro	Ser	Arg	Arg	Ala	His	Ser	Leu	Thr	Thr	Ala	Gly	Ser	Pro	Asn	Leu
			20					25					30		
Ala	Ala	Gly	Thr	Ser	Ser	Pro	Ile	Arg	Pro	Val	Ser	Ser	Pro	Val	Leu
		35					40					45			
Ser	Ser	Ser	Asn	Lys	Ser	Pro	Ser	Ser	Ala	Trp	Ser	Ser	Ser	Ser	Trp
		50				55					60				
His	Gly	Arg	Ile	Lys	Gly	Gly	Met	Lys	Gly	Phe	Gln	Ser	Phe	Met	Val
65					70				75					80	
Ser	Asp	Ser	Asn	Met	Ser	Phe	Val	Glu	Phe	Val	Glu	Leu	Phe	Lys	Ser
				85				90						95	
Phe	Ser	Val	Arg	Ser	Arg	Lys	Asp	Leu	Lys	Asp	Leu	Phe	Asp	Xaa	Leu

	100		105		110										
Cys	Ser	Ala	Leu	Gln	Pro	Xaa	Leu	Ala	Pro	Ser	Gln	Pro	His	Ser	Thr
	115		120		125										
Pro	Thr														
	130														

&lt;210&gt; 3935

&lt;211&gt; 1103

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3935

```

ntgccagctt ggtgcaggga ggctcctgtg gacaggccag gcaggtgggc ctcaggaggt
60
gcctccaggc ggccagtggg cccgaggccc cagcaagggc taggggccat ctccagtccc
120
aggacacagc agcggccacc atggccacgc ctgggctcca gcagcatcag cagccccag
180
gaccggggag gcacaggtgg cccccaccac ccggaggagc agctcctgcc cctgtccggg
240
ggatgactga ttctcctccg ccaggccacc cagaggagaa ggccaccccg cctggaggca
300
caggccatga ggggctctca ggaggtgctg ctgatgtggc ttctggtgtt ggcagtgggc
360
ggcacagagc acgcctaccg gcccgcccggt aggggtgtgtg ctgtccgggc tcacggggac
420
cctgtctccg agtcgttcgt gcagcgtgtg taccagccct tcctcaccac ctgcgacggg
480
caccgggcct gcagcaccta ccgaaccatc tataggaccg cctaccgccg cagccctggg
540
ctggcccttg ccaggcctcg ctacgcgtgc tgccccggct ggaagaggac cagcgggctt
600
cctggggcct gtggagcagc aatatgccag ccgccatgcc ggaacggagg gagctgtgtc
660
cagcctggcc gctgccgctg ccctgcagga tggcgggggtg acacttgcca gtcagatgtg
720
gatgaatgca gtgctaggag gggcggtgtg cccagcgtgc gcgtcaacac cgccggcagt
780
tactggtgcc agtggtggga ggggcacagc ctgtctgcag acggtacact ctgtgtgccc
840
aaggaggagg cccccagggt ggcccccaac ccgacaggtg aacagccctg gctgtgcctg
900
gcctggggag gcgggcaggc agtggacatt gccgtgtggc tgtaggcat ggtggggggc
960
actggaatct gggcggaagg cggtggggac tccctctcca gggaggagg atggggaggg
1020
aggatagggt ggttcccag aactgggggc aggttggccg gagcctcata tcagccaaga
1080
aggcagaagt gcccgtccc ggg
1103

```

&lt;210&gt; 3936

&lt;211&gt; 265

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3936

```

Met Arg Gly Ser Gln Glu Val Leu Leu Met Trp Leu Leu Val Leu Ala
 1              5              10              15
Val Gly Gly Thr Glu His Ala Tyr Arg Pro Gly Arg Arg Val Cys Ala
      20              25              30
Val Arg Ala His Gly Asp Pro Val Ser Glu Ser Phe Val Gln Arg Val
      35              40              45
Tyr Gln Pro Phe Leu Thr Thr Cys Asp Gly His Arg Ala Cys Ser Thr
      50              55              60
Tyr Arg Thr Ile Tyr Arg Thr Ala Tyr Arg Arg Ser Pro Gly Leu Ala
65              70              75              80
Pro Ala Arg Pro Arg Tyr Ala Cys Cys Pro Gly Trp Lys Arg Thr Ser
      85              90              95
Gly Leu Pro Gly Ala Cys Gly Ala Ala Ile Cys Gln Pro Pro Cys Arg
      100             105             110
Asn Gly Gly Ser Cys Val Gln Pro Gly Arg Cys Arg Cys Pro Ala Gly
      115             120             125
Trp Arg Gly Asp Thr Cys Gln Ser Asp Val Asp Glu Cys Ser Ala Arg
      130             135             140
Arg Gly Gly Cys Pro Gln Arg Cys Val Asn Thr Ala Gly Ser Tyr Trp
145             150             155             160
Cys Gln Cys Trp Glu Gly His Ser Leu Ser Ala Asp Gly Thr Leu Cys
      165             170             175
Val Pro Lys Gly Gly Pro Pro Arg Val Ala Pro Asn Pro Thr Gly Lys
      180             185             190
Gln Pro Trp Leu Cys Leu Ala Trp Gly Gly Gly Gln Ala Val Asp Ile
      195             200             205
Ala Val Trp Leu Leu Gly Met Val Gly Gly Thr Gly Ile Trp Ala Glu
      210             215             220
Gly Gly Gly Asp Ser Leu Ser Arg Glu Gly Gly Trp Gly Gly Arg Ile
225             230             235             240
Gly Gly Phe Pro Arg Thr Gly Gly Arg Leu Pro Gly Ala Ser Tyr Gln
      245             250             255
Pro Arg Arg Gln Lys Cys Pro Val Pro
      260             265

```

&lt;210&gt; 3937

&lt;211&gt; 744

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3937

```

tccggactct ccgctgggccc cacgaaggag aaaggctgcc tcggattcct gcgccaagc
60
caagggtccgg cgccacgga ggcaagtccg gtctcacggg gacctccgc cggcgccgc
120
ttcgccgcca accatccagt tcttctcca ggccacgttc tccttgcgga aaatgctgat
180
ctcagtcgca atgctgggcy caggggctgg cgtgggctac gcgctcctcg ttatcgtgac
240
cccgggagag cggcggaagc aggaatgct aaaggagatg ccactgcagg acccaaggag
300

```

caggaggag gggccagga cccagcagct attgctggcc actctgcagg aggcagcgac  
 360  
 caccgaggag aacgtggcct gngaggaaga actggatggg tggcggcgaa ggcggcgcca  
 420  
 gggggagggt accgtgagac cggacttgcc tccgtgggag cggaccttg gcttgggagc  
 480  
 aggaatccga ggcagccttt ctcttcgtg ggcccagcgg agagtccgga ccgagatacc  
 540  
 atgccaggac tctccggggg cctgtgagct gccgtcgggt gagcacgttt ccccaaacc  
 600  
 ctggactgac tgctttaagg tccgcaaggc gggccagggc cgagacgca gtcggatgtg  
 660  
 gtgaactgaa agaaccaata aaatcatgtt cctccacca gaatgagccc tgcagtcgac  
 720  
 acctaccaat gcttagagac gcgt  
 744

<210> 3938

<211> 154

<212> PRT

<213> Homo sapiens

<400> 3938

Pro	Pro	Ala	Gly	Ala	Ala	Phe	Ala	Ala	Asn	His	Pro	Val	Leu	Pro	Pro
1			5					10					15		
Gly	His	Val	Leu	Leu	Ala	Glu	Asn	Ala	Asp	Leu	Ser	Arg	Asn	Ala	Gly
		20					25					30			
Arg	Arg	Gly	Trp	Arg	Gly	Leu	Arg	Ala	Pro	Arg	Tyr	Arg	Asp	Pro	Gly
		35				40					45				
Arg	Ala	Ala	Glu	Ala	Gly	Asn	Ala	Lys	Gly	Asp	Ala	Thr	Ala	Gly	Pro
	50					55				60					
Lys	Glu	Gln	Gly	Gly	Gly	Gln	Asp	Pro	Ala	Ala	Ile	Ala	Gly	His	
65					70				75				80		
Ser	Ala	Gly	Gly	Ser	Asp	His	Ala	Gly	Glu	Arg	Gly	Leu	Xaa	Gly	Arg
			85					90				95			
Thr	Gly	Trp	Leu	Ala	Ala	Lys	Ala	Ala	Pro	Ala	Gly	Gly	His	Arg	Glu
		100					105					110			
Thr	Gly	Leu	Ala	Ser	Val	Gly	Ala	Gly	Pro	Trp	Leu	Gly	Arg	Arg	Asn
		115				120					125				
Pro	Arg	Gln	Pro	Phe	Ser	Phe	Val	Gly	Pro	Ala	Glu	Ser	Pro	Asp	Arg
	130					135					140				
Asp	Thr	Met	Pro	Gly	Leu	Ser	Gly	Val	Leu						
145					150										

<210> 3939

<211> 490

<212> DNA

<213> Homo sapiens

<400> 3939

nnttgcaacg tgagagggcg ctcaagagat tcaggaaagg aaagacagac agacagacag  
 60  
 acgggaaagg tgagatggaa acacacagaa gatgagagag acagacagtg ggaggcagag  
 120

ctgaagactg tgaaagaaag ggcaacagac agcgagggag gaagagacag gctggagccc  
 180  
 ttcttgtaaa cgcaggtgac ctggtgcacg gctgatggtg gttaaactcg aactccaggt  
 240  
 gataaccact gtctcctgga gcctgtgggt cggcctcctg ctctgctgca agggccctgc  
 300  
 tggctggcgg ggggcggtcc cggagcctcg acccttcacg ttttactcc gtttctgttc  
 360  
 taaggaaccc acggtgcgga ggtgtcagga ggaaggtagc agcgtcttga ctttccaccg  
 420  
 tctgaccctc cctggagtgc tggggcctgt tcggggccgg ccaggttcag gctccacaga  
 480  
 cctcacgcgt  
 490

<210> 3940

<211> 62

<212> PRT

<213> Homo sapiens

<400> 3940

Xaa	Cys	Asn	Val	Arg	Gly	Arg	Ser	Arg	Asp	Ser	Gly	Lys	Glu	Arg	Gln
1				5				10					15		
Thr	Asp	Arg	Gln	Thr	Gly	Lys	Val	Arg	Trp	Lys	His	Thr	Glu	Asp	Glu
		20					25					30			
Arg	Asp	Arg	Gln	Trp	Glu	Ala	Glu	Leu	Lys	Thr	Val	Lys	Glu	Arg	Ala
	35					40					45				
Thr	Asp	Ser	Glu	Gly	Gly	Arg	Asp	Arg	Leu	Glu	Pro	Phe	Leu		
	50					55					60				

<210> 3941

<211> 2077

<212> DNA

<213> Homo sapiens

<400> 3941

nnnttttttt ttttttttca agatggcagc tttaatcaca ttggccaagg gcctaggttc  
 60  
 cctctgttca ggcccaactta gccacacacc caccctggcc atatccagaa cacttctacc  
 120  
 aggtgggccc tgccctgtgg cactgatgt gggaacctga ggtcacatca gtctgtggac  
 180  
 tcctgggtta ggtgaccctt ctgccttgag gtctgctgga cacctgggca tgggatccag  
 240  
 tagtctgag ctactcttt tggccatctc cagctgctcc taggggacgt ggctcaggcc  
 300  
 cgctcctggg gcaggggggt ggcggtggca tgagggtgggt tggggaggag gacgtgtctc  
 360  
 cacattgcag ctggcttct cctgggctga acctccttgt gctttgagac tgacaggaag  
 420  
 agcagagttg cttcaggtag aggctcggcc caggcccttg gggcaggata acagcagaga  
 480  
 actcaggtgc ctctggcac agacaggagg acagatggca caggtgagca tccacacact  
 540

ccattgccac aggggggtatg gcatggccca tgacccatca aagcttccag gtcgggatac  
600  
aggagagggc ctcaagagag ggggaccaag ccctaggccc catacttccc agaaggagcc  
660  
ccaggcctgc aggggcatct gaaaggatgg agtcctggcc cagctgggcc tcaggggaca  
720  
gggagtcccc ctcaagagag gctgcggtg acaaggggct ggagcccaca aggaggctgt  
780  
ggagcccgct ccagagcac tccgagttca gacacacttc caccagctct cctaggctcc  
840  
ccagcttctg tgtcaggtac aggtgggaca gacatgtctt cagctaacgc ccactccgct  
900  
ctatgagggc cttgggtgtg ctgccacccc ctcgggggcc cacaggggtg gcggtgctgt  
960  
tggcatatgt gtcataactg ttgtctgaac atacggagag cacatcggag acctctacac  
1020  
catcgctgat ctctgagaaa ataagcttct ccttcatgat gctgacgtcc cggctggtcc  
1080  
ggcgaccgc agcactcagc atgatctgct cagggttgta gctccgtatg ccaccaggc  
1140  
gccacctgat caagtgatag ttctggagca cgaagatgcc cacgatgagg gtgaaggaga  
1200  
ccaggtcggc agtgaccac atgagacagt actcgtccgg gggcatgac cagagggggg  
1260  
aaggcacctg ggacaggggtg tgggagttgt cagaggtgac ggatgggacc ccgcacacc  
1320  
acagcaggga gaagagccac ggtgcgttga ctgtgtagag gttcacactc aggttccagg  
1380  
acgcgtagtc cctgagctcc tggcgggaca cctgagtgtg gcgcagggtc agccgctgga  
1440  
tgtggcctct ccgcaggctg gcgactgcct ccttggagcc tgatgtctgt tggagccgg  
1500  
gagccacctt ccgcaccagg ggccctctgcc tgctaggcag ccacatgacc tgggtgctgg  
1560  
ggaagccgga gtgcagcacg gcctccagag tcacgttgat aaaactgctg ctcaacctgc  
1620  
gtgaccgcc ccgggagcac ccctaccgca gcagttttat caacgtgact ctggaggccg  
1680  
tgctgcactc cggttcccc cagctccagg tgctctagga ggagtaggta ctcttacgca  
1740  
tcgtgcagaa gagaagtctg aggtgcctc tcttctgcct gcaggtcatg tggtgccta  
1800  
gcaggcagag gcccctggtg cggaagggtg ctcccggctt ccaacagaca tcaggctcca  
1860  
aggagcagc cgccagcctg cggagaggcc acatccagcg gctgaacctg cgctacactc  
1920  
aggtgtcccg ccagcgteca ggtgcctgcc ctgccctggg ctccctcagg agaggggtgg  
1980  
actgagtctc taacagtctc gccaccacca cccccaaca cacacacaca cacacacaca  
2040  
ctgtcgggca gagggatggg cacacagagg tatcagg  
2077

&lt;210&gt; 3942

<211> 89  
 <212> PRT  
 <213> Homo sapiens

<400> 3942  
 Ala Pro Tyr Phe Pro Glu Gly Ala Pro Gly Leu Gln Gly His Leu Lys  
 1 5 10 15  
 Gly Trp Ser Pro Gly Pro Ala Gly Pro Gln Gly Thr Gly Ser Pro Pro  
 20 25 30  
 Gln Glu Arg Leu Arg Leu Thr Arg Gly Trp Ser Pro Gln Gly Gly Cys  
 35 40 45  
 Gly Ala Arg Ser Gln Ser Thr Pro Ser Ser Asp Thr Leu Pro Pro Ala  
 50 55 60  
 Leu Leu Gly Ser Pro Ala Ser Val Ser Gly Thr Gly Gly Thr Asp Met  
 65 70 75 80  
 Ser Ser Ala Asn Ala His Ser Ala Leu  
 85

<210> 3943  
 <211> 1524  
 <212> DNA  
 <213> Homo sapiens

<400> 3943  
 tctagacaaa aatccgcttc agaaataggc tgcgggcggc cggctaggag gcttggcccc  
 60  
 accccgggac ccccgccgtc cccgggcccgg ccggcgggtgg gcacgatgag ccaggtgctg  
 120  
 gggaagccgc agccgcagga cgaggacgac gcgaggaggagg aggaggagga ggatgagctg  
 180  
 gtggggctag cggactacgg agacggggccg gactcctccg acgccgatcc ggacagcggc  
 240  
 acagaggagg gagttctgga cttcagtac cccttcagca ctgaagtga gccgagaatc  
 300  
 ctgctcatgg gcctgaggag aagcggcaag tcgtctattc agaaagttgt ctttcacaaa  
 360  
 atgtctccca acgaaactct gttcttgagg agcactaata agatatgccg ggaagatggt  
 420  
 tccaacagct cctttgtcaa ttttcagatt tgggacttcc caggacagat tgactttttt  
 480  
 gaccctacat ttgactatga gatgatcttc cggggaacag gagcattgat atttgcatt  
 540  
 gacgcacagg atgactacat ggaggcttta acaagacttc acattactgt ttctaaagcc  
 600  
 tacaaagtta acccagacat gaattttgag gtttttattc ataaagttga tggctctgtc  
 660  
 gatgatcaca aatagaaac acagagggac attcatcaaa gggccaatga tgaccttgca  
 720  
 gatgctggat tagaaaaaat tcacctcagc ttttatctga caagcatata tgatcattca  
 780  
 atatttgaag ctttttagcaa agttgttcag aaactgattc cacaactccc aactctggag  
 840  
 aatttgctga acatctttat ctcaaattct ggaattgaaa aggcatttct atttgatgtg  
 900



gtcagtaaaa tttatattgc aactgatagt actccggtgg atatgcaaac ctatgagctc  
 960  
 tgctgtgata tgatagatgt ggttattgac atctcttgta tttatgggtct caaagaagat  
 1020  
 ggagcaggaa cccctatga caaggaatcc acagccatca taaagcttaa taatacaacc  
 1080  
 gtgctttatt taaaagaggt gacaaagttc ctggctctcg tttgctttgt cagagaggaa  
 1140  
 agctttgaaa gaaaagggct aattgactat aattttcatt gcttccggaa ggccattcat  
 1200  
 gaagtttttg aggtgagaat gaaagtagta aaatctcgaa aggttcagaa tcggctgcag  
 1260  
 aagaaaaaga gagccacccc taatgggacc cctagagtgc tgctgtaggt gaggtttcag  
 1320  
 gaatgtcttt tgaaatcaga ccttatccat gaggtgctg cgccatgttg cactaaagga  
 1380  
 agaggaagaa ggagattggg acacatacca ttgatttggt gttaaaaaaaa aaaaattcct  
 1440  
 gcaaccctct tgatcttctc ttttataaat aaagtaagca ctttgaagca aaaaaaaaaa  
 1500  
 aaaaaaaaaa aaaaaaaaaa aaaa  
 1524

&lt;210&gt; 3944

&lt;211&gt; 435

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3944

Ser	Arg	Gln	Lys	Ser	Ala	Ser	Glu	Ile	Gly	Cys	Gly	Arg	Pro	Ala	Arg
1			5						10					15	
Arg	Leu	Gly	Pro	Thr	Pro	Gly	Pro	Pro	Pro	Ser	Pro	Gly	Arg	Pro	Ala
	20							25					30		
Val	Gly	Thr	Met	Ser	Gln	Val	Leu	Gly	Lys	Pro	Gln	Pro	Gln	Asp	Glu
	35						40				45				
Asp	Asp	Ala	Glu	Glu	Glu	Glu	Glu	Glu	Asp	Glu	Leu	Val	Gly	Leu	Ala
	50					55				60					
Asp	Tyr	Gly	Asp	Gly	Pro	Asp	Ser	Ser	Asp	Ala	Asp	Pro	Asp	Ser	Gly
65					70					75				80	
Thr	Glu	Glu	Gly	Val	Leu	Asp	Phe	Ser	Asp	Pro	Phe	Ser	Thr	Glu	Val
			85					90					95		
Lys	Pro	Arg	Ile	Leu	Leu	Met	Gly	Leu	Arg	Arg	Ser	Gly	Lys	Ser	Ser
		100						105					110		
Ile	Gln	Lys	Val	Val	Phe	His	Lys	Met	Ser	Pro	Asn	Glu	Thr	Leu	Phe
	115						120					125			
Leu	Glu	Ser	Thr	Asn	Lys	Ile	Cys	Arg	Glu	Asp	Val	Ser	Asn	Ser	Ser
	130					135				140					
Phe	Val	Asn	Phe	Gln	Ile	Trp	Asp	Phe	Pro	Gly	Gln	Ile	Asp	Phe	Phe
145				150					155					160	
Asp	Pro	Thr	Phe	Asp	Tyr	Glu	Met	Ile	Phe	Arg	Gly	Thr	Gly	Ala	Leu
			165					170					175		
Ile	Phe	Val	Ile	Asp	Ala	Gln	Asp	Asp	Tyr	Met	Glu	Ala	Leu	Thr	Arg
		180						185					190		
Leu	His	Ile	Thr	Val	Ser	Lys	Ala	Tyr	Lys	Val	Asn	Pro	Asp	Met	Asn

195	200	205
Phe Glu Val Phe Ile His Lys Val Asp Gly Leu Ser Asp Asp His Lys		
210	215	220
Ile Glu Thr Gln Arg Asp Ile His Gln Arg Ala Asn Asp Asp Leu Ala		
225	230	235
Asp Ala Gly Leu Glu Lys Ile His Leu Ser Phe Tyr Leu Thr Ser Ile		
245	250	255
Tyr Asp His Ser Ile Phe Glu Ala Phe Ser Lys Val Val Gln Lys Leu		
260	265	270
Ile Pro Gln Leu Pro Thr Leu Glu Asn Leu Leu Asn Ile Phe Ile Ser		
275	280	285
Asn Ser Gly Ile Glu Lys Ala Phe Leu Phe Asp Val Val Ser Lys Ile		
290	295	300
Tyr Ile Ala Thr Asp Ser Thr Pro Val Asp Met Gln Thr Tyr Glu Leu		
305	310	315
Cys Cys Asp Met Ile Asp Val Val Ile Asp Ile Ser Cys Ile Tyr Gly		
325	330	335
Leu Lys Glu Asp Gly Ala Gly Thr Pro Tyr Asp Lys Glu Ser Thr Ala		
340	345	350
Ile Ile Lys Leu Asn Asn Thr Thr Val Leu Tyr Leu Lys Glu Val Thr		
355	360	365
Lys Phe Leu Ala Leu Val Cys Phe Val Arg Glu Glu Ser Phe Glu Arg		
370	375	380
Lys Gly Leu Ile Asp Tyr Asn Phe His Cys Phe Arg Lys Ala Ile His		
385	390	395
Glu Val Phe Glu Val Arg Met Lys Val Val Lys Ser Arg Lys Val Gln		
405	410	415
Asn Arg Leu Gln Lys Lys Lys Arg Ala Thr Pro Asn Gly Thr Pro Arg		
420	425	430
Val Leu Leu		
435		

&lt;210&gt; 3945

&lt;211&gt; 696

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3945

cggccggctg taaacctgcc actaggaccc ggtcgggtgag atctagcctc ttgacctgag

60

agccgagagt ggatcgctgg gctgggctaa cggcgacgga gagcgcgccc tcgctgactc

120

cggcgcgccc cagcagtagc accgcccgcg cccgcccctg gacacttgta agtttcgatt

180

tccgatttcc gcggaaccga gtcccgcgcc gcggcagagc cagcacagcc agcgcgccat

240

ggcggacccg gaggtgtgct gcttcatcac caaaatcctg tgcgcccacg ggggcccgc

300

ggcctggac gcgctgtcc aggagatcgc gctgtctgag ccgcagctct gtgaggtgct

360

gcaggtggcc gggcccagacc gctttgtggt gttggagacc ggcggcgagg ccgggatcac

420

ccgatcggtg gtggccacca ctcgagcccg ggtctgccgt cgcaagtact gccagagacc

480

ctgcgataac ctgcatctct gcaaactcaa cttgctgggc cggtgcaact attcgagtc  
 540  
 cgagcgggaat ttatgcaaat attctcatga ggttctctca gaagagaact tcaaagtcct  
 600  
 gaaaaatcac gaactctctg gactgaacaa agaggaatta gcagtgtctcc tctccaaag  
 660  
 tgatcctttt tttatgcccg agccctatgc agtctc  
 696

<210> 3946

<211> 165

<212> PRT

<213> Homo sapiens

<400> 3946

Met	Gln	Val	Ile	Ala	Gly	Ser	Leu	Ala	Val	Leu	Ala	Thr	Ala	Asp	Pro
1				5					10					15	
Gly	Ser	Ser	Gly	Gly	His	His	Arg	Ser	Gly	Asp	Pro	Gly	Leu	Ala	Ala
			20					25					30		
Gly	Leu	Gln	His	His	Lys	Ala	Val	Gly	Pro	Gly	His	Leu	Gln	His	Leu
			35				40					45			
Thr	Glu	Leu	Arg	Leu	Arg	Gln	Arg	Asp	Leu	Leu	Glu	Gln	Arg	Val	Gln
	50				55					60					
Gly	His	Ala	Ala	Pro	Val	Gly	Ala	Gln	Asp	Phe	Gly	Asp	Glu	Ala	Ala
65					70				75					80	
His	Leu	Arg	Val	Arg	His	Gly	Ala	Leu	Ala	Val	Leu	Ala	Leu	Pro	Arg
				85				90						95	
Arg	Gly	Thr	Arg	Phe	Arg	Gly	Asn	Arg	Lys	Ser	Lys	Leu	Thr	Ser	Val
			100				105						110		
Gln	Gly	Arg	Ala	Arg	Ala	Val	Leu	Leu	Leu	Gly	Ala	Pro	Gly	Val	Ser
		115				120						125			
Glu	Gly	Ala	Leu	Ser	Val	Ala	Val	Ser	Pro	Ala	Gln	Arg	Ser	Thr	Leu
	130				135						140				
Gly	Ser	Gln	Val	Lys	Arg	Leu	Asp	Leu	Thr	Asp	Arg	Val	Leu	Val	Ala
145				150				155						160	
Gly	Leu	Gln	Pro	Ala											
				165											

<210> 3947

<211> 400

<212> DNA

<213> Homo sapiens

<400> 3947

nnggagaagc aggccattct cttggcgctg atcgaggagc gggggccgctt ctgcaccttc  
 60  
 atcaccttcc tgcagcctgt ggtgaatgga gagctgacca tgctgggaga gatcacccac  
 120  
 ctgcagggca tcatcgacga cttggtggtg ctgacagcag aaccccacaa actgcctccc  
 180  
 gccagcgagc aggtaatcaa agacctaaag ggctcggact acagctggtc ctaccagacc  
 240  
 ccacctcat caccagcag ctccagctcc cggaagtcca gcatgtgcag tgccccagc  
 300

agcagtagca gtgccaaggg tggcggaagc cccatggcct gggggtgccc aaacatactc  
 360  
 acccagttcc acctgtcgct accgcagcct ggcgcagcca  
 400

<210> 3948  
 <211> 133  
 <212> PRT  
 <213> Homo sapiens

<400> 3948  
 Xaa Glu Lys Gln Ala Ile Leu Leu Ala Leu Ile Glu Glu Arg Gly Arg  
 1 5 10 15  
 Phe Cys Thr Phe Ile Thr Phe Leu Gln Pro Val Val Asn Gly Glu Leu  
 20 25 30  
 Thr Met Leu Gly Glu Ile Thr His Leu Gln Gly Ile Ile Asp Asp Leu  
 35 40 45  
 Val Val Leu Thr Ala Glu Pro His Lys Leu Pro Pro Ala Ser Glu Gln  
 50 55 60  
 Val Ile Lys Asp Leu Lys Gly Ser Asp Tyr Ser Trp Ser Tyr Gln Thr  
 65 70 75 80  
 Pro Pro Ser Ser Pro Ser Ser Ser Ser Arg Lys Ser Ser Met Cys  
 85 90 95  
 Ser Ala Pro Ser Ser Ser Ser Ala Lys Gly Gly Gly Ser Pro Met  
 100 105 110  
 Ala Trp Gly Cys Pro Asn Ile Leu Thr Gln Phe His Leu Ser Leu Pro  
 115 120 125  
 Gln Pro Gly Ala Ala  
 130

<210> 3949  
 <211> 1462  
 <212> DNA  
 <213> Homo sapiens

<400> 3949  
 ctcgagaact ccagccttgg aagaaaggcc acaggctgag tttcttattt ttatggcttt  
 60  
 taccagaga gcaagacaca ggtctgcatt gtgcagcaca gctaaagttc ctttagaaaa  
 120  
 ccaccatctt tctggctgca agagtcaggg gtcagaatgg ggggcagcca ccactgctga  
 180  
 aaagagttgg gggaggaacc cctgaaagga gagccagaaa tgggggagct ccaaactctt  
 240  
 tgtgtcagct ctgtccaaat ctctaactga cttgtgaact aaaaagaaag gtttctacca  
 300  
 tcagcagact gtcaccata gacatttaca cagtattttg gtttgaggtt cttcctaata  
 360  
 gtcaacttcac agaaaaatat ataggtgctg ttttgccctg gaagccagac agatcagaat  
 420  
 attgggtaag atagctgggt cagctgtcct tggatggatc ccaaacta tgctccttc  
 480  
 caggcctgag aatcgccgaa cactgtccaa cacaatgtga tcaccaaca tatcacatgc  
 540

atcactgagc tgcaccaccc ttttcttcct cattgctttc aagagctcat acttatagt  
 600  
 ctccacttct tttgcggtgc tgacaagcac agcaacatcc tttggagaat agcccctatc  
 660  
 aaagaagcgc ctgcacgtgt ctgccacaca ggtcattatt tgctccacag tcaagtattt  
 720  
 cttaattcgt aaggttccct gaacaccctg ggaccattcg gcttcaggaa atacctcgag  
 780  
 gcacccagtg gggatattaa ttggaggatt ttctataatt agttgcattt ctttttgtaa  
 840  
 gtactcggct atttcatctg cattgcgaac tattctggtg agctcttctc ttggatattg  
 900  
 gtctgagaga ggagggaggc cactgtgacc caagtggctg gtctgaaagt aatccagaaa  
 960  
 gatccagaga actcctggac aatccttttc tctctgagtg atgctttttg ccttcccata  
 1020  
 ccagtcccca tcttcagtac ggaaattctg agcttcgtca atgacgatgt gttgaatgtg  
 1080  
 ttcaaatttt tctcttagga aagtttcccg ggtctctgct cggcagatat ttctatcact  
 1140  
 gataaagttc ctcagaggct ggttttcaca aacgtagaga attctgtgtg cctcacagtg  
 1200  
 aaacacattc ctgatcttct ccatgatttt catggccatg atgttcttcc ctgagccagg  
 1260  
 taagccgtgg acaaacaact ctctgttctt gcggaggctt ctggagaata tctcatactg  
 1320  
 ctgggctgtg agcagattta aaacctcaca gccgagctgg tcactcaaga gagacctgaa  
 1380  
 gccgagtaag acaatcacga gggactgcag cagggcttcc atgtgctggg tgccctgcaag  
 1440  
 gctataggac gcagggtaat cc  
 1462

&lt;210&gt; 3950

&lt;211&gt; 351

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3950

Met	Glu	Ala	Leu	Leu	Gln	Ser	Leu	Val	Ile	Val	Leu	Leu	Gly	Phe	Arg
1			5					10					15		
Ser	Leu	Leu	Ser	Asp	Gln	Leu	Gly	Cys	Glu	Val	Leu	Asn	Leu	Leu	Thr
		20					25					30			
Ala	Gln	Gln	Tyr	Glu	Ile	Phe	Ser	Arg	Ser	Leu	Arg	Lys	Asn	Arg	Glu
		35					40					45			
Leu	Phe	Val	His	Gly	Leu	Pro	Gly	Ser	Gly	Lys	Asn	Ile	Met	Ala	Met
	50					55					60				
Lys	Ile	Met	Glu	Lys	Ile	Arg	Asn	Val	Phe	His	Cys	Glu	Ala	His	Arg
65					70				75					80	
Ile	Leu	Tyr	Val	Cys	Glu	Asn	Gln	Pro	Leu	Arg	Asn	Phe	Ile	Ser	Asp
			85					90						95	
Arg	Asn	Ile	Cys	Arg	Ala	Glu	Thr	Arg	Glu	Thr	Phe	Leu	Arg	Glu	Lys
		100					105					110			
Phe	Glu	His	Ile	Gln	His	Ile	Val	Ile	Asp	Glu	Ala	Gln	Asn	Phe	Arg

115	120	125
Thr Glu Asp Gly Asp Trp Tyr Gly Lys Ala Lys Ser Ile Thr Gln Arg		
130	135	140
Glu Lys Asp Cys Pro Gly Val Leu Trp Ile Phe Leu Asp Tyr Phe Gln		
145	150	155
Thr Ser His Leu Gly His Ser Gly Leu Pro Pro Leu Ser Asp Gln Tyr		
165	170	175
Pro Arg Glu Glu Leu Thr Arg Ile Val Arg Asn Ala Asp Glu Ile Ala		
180	185	190
Glu Tyr Leu Gln Lys Glu Met Gln Leu Ile Ile Glu Asn Pro Pro Ile		
195	200	205
Asn Ile Pro Thr Gly Cys Leu Glu Val Phe Pro Glu Ala Glu Trp Ser		
210	215	220
Gln Gly Val Gln Gly Thr Leu Arg Ile Lys Lys Tyr Leu Thr Val Glu		
225	230	235
Gln Ile Met Thr Cys Val Ala Asp Thr Cys Arg Arg Phe Phe Asp Arg		
245	250	255
Gly Tyr Ser Pro Lys Asp Val Ala Val Leu Val Ser Thr Ala Lys Glu		
260	265	270
Val Glu His Tyr Lys Tyr Glu Leu Leu Lys Ala Met Arg Lys Lys Arg		
275	280	285
Val Val Gln Leu Ser Asp Ala Cys Asp Met Leu Gly Asp His Ile Val		
290	295	300
Leu Asp Ser Val Arg Arg Phe Ser Gly Leu Glu Arg Ser Ile Val Phe		
305	310	315
Gly Ile His Pro Arg Thr Ala Asp Pro Ala Ile Leu Pro Asn Ile Leu		
325	330	335
Ile Cys Leu Ala Ser Arg Ala Lys Gln His Leu Tyr Ile Phe Leu		
340	345	350

&lt;210&gt; 3951

&lt;211&gt; 1012

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3951

ctggttcgag actccaatcc tgtttcgaat tgctgcttgc tgcccttggg ctggggataa  
60tggaagtctt ttccttccc aactctttcc agaccgaagc actctgggac tcaactccata  
120gtccaggagt tccaggttcc ggattatggt ccatggcagc agtccaagca ggaaaccaag  
180ccatctactc tgctccagt ccaacaagcc aacagccttc atacaagcaa aatgaagact  
240ttgactaggg tccaaccagt gtttcacttc aagcccacta cgggtggtgac aagctgccag  
300ccgaagaatc caagagaact acatagaagg cggaagttgg accctgggaa gatgcatgcc  
360aaaatctggt taatgaagac ctgcgtcagg agcgggaggg ccgctctgag agagctccga  
420agccgtgaga acttctcag caagctcaac cgggagctga tcgagaccat ccaggagatg  
480gagaacagca cgacctgca cgtgcggggc ctgctgcagc agcaggacac cctggcgacc  
540

atcatcgaca tcttgagta ctcaaacaag aagaggctgc agcaattgaa atctgagctt  
 600  
 caggagtggg aagaaaagaa gaaatgcaag atgagctatc ttgagcagca ggcagagcag  
 660  
 ctgaatgcca agattgagaa gacccaggag gaagtgaact tcctgagcac ttacatggac  
 720  
 catgagtatt ccatcaagtc tgtccagatc tccactctta tgcgccactg cagcaggtta  
 780  
 aggacagcca gcaggtaggg gagcccctgc ccctntccca ccagactgtg tgggaggcag  
 840  
 gactgggtggc caacaccgtt ctgctggctc ccaggatgag ctggatgacc tcggtgagat  
 900  
 gcgcagaaaag gtcttgggaa tccttgctcg acaagattca gaagaagaag aaaaaaattc  
 960  
 tgagttctgt ggtggcgggtg agtagccagt tgctgtgtgg gagcggggat cc  
 1012

<210> 3952

<211> 188

<212> PRT

<213> Homo sapiens

<400> 3952

Met	Lys	Thr	Leu	Thr	Arg	Val	Gln	Pro	Val	Phe	His	Phe	Lys	Pro	Thr
1				5					10					15	
Thr	Val	Val	Thr	Ser	Cys	Gln	Pro	Lys	Asn	Pro	Arg	Glu	Leu	His	Arg
		20						25					30		
Arg	Arg	Lys	Leu	Asp	Pro	Gly	Lys	Met	His	Ala	Lys	Ile	Trp	Leu	Met
		35					40					45			
Lys	Thr	Ser	Leu	Arg	Ser	Gly	Arg	Ala	Ala	Leu	Arg	Glu	Leu	Arg	Ser
		50				55					60				
Arg	Glu	Asn	Phe	Leu	Ser	Lys	Leu	Asn	Arg	Glu	Leu	Ile	Glu	Thr	Ile
65				70					75					80	
Gln	Glu	Met	Glu	Asn	Ser	Thr	Thr	Leu	His	Val	Arg	Ala	Leu	Leu	Gln
				85					90					95	
Gln	Gln	Asp	Thr	Leu	Ala	Thr	Ile	Ile	Asp	Ile	Leu	Glu	Tyr	Ser	Asn
		100						105					110		
Lys	Lys	Arg	Leu	Gln	Gln	Leu	Lys	Ser	Glu	Leu	Gln	Glu	Trp	Glu	Glu
		115					120					125			
Lys	Lys	Lys	Cys	Lys	Met	Ser	Tyr	Leu	Glu	Gln	Gln	Ala	Glu	Gln	Leu
		130				135						140			
Asn	Ala	Lys	Ile	Glu	Lys	Thr	Gln	Glu	Glu	Val	Asn	Phe	Leu	Ser	Thr
145					150					155				160	
Tyr	Met	Asp	His	Glu	Tyr	Ser	Ile	Lys	Ser	Val	Gln	Ile	Ser	Thr	Leu
			165						170					175	
Met	Arg	His	Cys	Ser	Arg	Leu	Arg	Thr	Ala	Ser	Arg				
			180						185						

<210> 3953

<211> 2900

<212> DNA

<213> Homo sapiens

<400> 3953

cccaggctca aggcaaatta taagtaggga accaatttga gggaaagaca tgtgaacaga  
60  
gttaagggtac cacgtcctgg gagcgaccag cagccccacc tgaagtccgc atgcaactct  
120  
gacaagctca ggtgcttggt ttaaggaaag gggctactag agtcttacca acagcgagcc  
180  
cagggtgggag atgaaacagg tactcccca aatagggtcat ccgagggagg aaaactgatg  
240  
gagagcaciaa tgtgctctga gcgtttttaa tgtttttaag cttttaaatg atttcttcaa  
300  
ggccgagcag cagcagcaaa ggtgtggctt aaaggattaa ggggggttct gctggcacct  
360  
agaatgaagt tactctatta ctaatcaagc cgagaggagg cccactatgc ccccgtttat  
420  
catcctttcc cagttccttt ttgctgggtc caaaacgatg ctcatcaatc ccacctaaaag  
480  
caggaggcca ggagcccagc ctcttgtaga aacagcgagg gtataactgc cctcccgttc  
540  
tgcccccaag acgaaggagg actctcgga gccaagaaag gtttaagaag tctttctgga  
600  
tagagagcag tgcccaggca ggaagccttt cgccggcaga gcggggtccg aggacgagct  
660  
ggagaggaca gaggcgcat gggcctgctg cagggcctgc tccgagtccg gaagctgctg  
720  
ctggctgctt gcgtcccgct cctgctgctg cctctgcccg tctccaccc cagcagcgag  
780  
gcctcggtg cttacgtgct gatcggtact gctgtgtact ggggtgctgga ggcagtgcct  
840  
ctgggagctg cagccctggg gccggccttc ctctaccgt tcttcggagt cctccggctc  
900  
aatgaggtgg cggcggagta cttcaagaac accacgctgc tgctgggtgg ggtcatctgc  
960  
gtggcggtg ccgtggagaa gtggaacctg cataagcgca ttgctctgcg catggtcttg  
1020  
atggccgggg ccaagccggg catgctgctg ctctgcttca tgtgctgtac cacgttgctg  
1080  
tccatgtggc tgtccaacac ctccaccacc gccatggtga tgcccatcgt ggaggccgtg  
1140  
ctgcaggagc tggtcagtgc tgaggacgag cagctcgtgg cgggcaactc caacaccgaa  
1200  
gaggccgaac ccatcagtct ggatgtaaag aacagccaac cttctctgga actcatcttt  
1260  
gtcaatgaag acaggtccaa cgcagacctc accactctga tgcacaacga gaacctgaat  
1320  
ggtgtgccct cgatcaccaa ccccatcaaa actgcaaacc aacaccaggg caagaagcaa  
1380  
caccatccc aggaaaagcc acaagtctg acccccagcc ccaggaagca gaagctgaac  
1440  
agaaagtaca ggtcccacca tgaccagatg atctgcaagt gcctctccct gagcatatcc  
1500  
tactccgcta ccattggcgg cctgaccacc atcatcggca cctccaccag cctcatcttc  
1560  
ctggaacact tcaacaacca gtatccagcc gcagaggtgg tgaactttgg cacctgggtc  
1620



ctcttcagct tccccatata cctcatcatg ctggtgggtca gctgggttctg gatgcactgg  
 1680  
 ctgttctctgg gctgcaatttt taaagagacc tgctctctga gcaagaagaa gaagacccaaa  
 1740  
 aggggaacagt tgtcagagaa gaggatccaa gaagaatatg aaaaactggg agacattagc  
 1800  
 taccagaaa tgggtgactgg atttttcttc atcctgatga ccgtactgtg gtttaccggg  
 1860  
 gagcctggct ttgtccctgg ctgggattct tcttttgaaa agaaaggcta ccgtactgat  
 1920  
 gccacagtct ctgtcttcct tggcttcctc ctcttctca ttcacgcaa gaagccctgc  
 1980  
 tttgggaaaa agaattgatgg agagaaccag gagcactcac tggggaccga gcccatcatc  
 2040  
 acgtggaagg acttccagaa gaccatgccc tgggagattg tcattctggt tgggggaggc  
 2100  
 tatgtcttgg cttctggtag caagagctct ggctctcta catggattgg gaaccagatg  
 2160  
 ttgtccctga gcagcctccc accgtgggtg gtcaccctgc tggcatgcat cctcgtgtcc  
 2220  
 attgtcactg agtttctgag caaccagca accatcacca tcttctgcc catcctgtgc  
 2280  
 agcctgtctg aaacgatgca cattaacccc ctctacaccc tgatcccagt caccatgtgc  
 2340  
 atctcctttg cagtgatgct gcctgtgggc aatcccccta atgccatcgt cttcagctat  
 2400  
 gggcactgcc agatcaaaga tatggtgaaa gctggcctgg gagtcaacgt tattggactg  
 2460  
 gtgatagtaa tgggtggccat caacacctgg ggagttagcc tcttccacct ggacacttac  
 2520  
 ccagcatggg cgagggtcag caacatcact gatcaagcct aacgccaagt gtacaaactg  
 2580  
 gcccaaccac aggagctgcc agtatccagc agtatctgga ccacaggcaa agaaaaccac  
 2640  
 taggaccacc aggagcacac aaccccagac ccacgccgga gggcatccct ccaccagaag  
 2700  
 attccgccac ctcaagtga ctgcaggaat cctccaacaa ccacaaacac atcgttcgct  
 2760  
 gttagtgtct tcttctgcc ctcagcacca cagctcaaga aaacctaaag tttcaatata  
 2820  
 accataggct cacagaaaaa gaaaaagaaa ataaaaatta aattaaaaaa aaagaagaca  
 2880  
 aagaaaaaaa aaaaaaaaaa  
 2900

&lt;210&gt; 3954

&lt;211&gt; 627

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3954

Met Gly Leu Leu Gln Gly Leu Leu Arg Val Arg Lys Leu Leu Leu Val

1

5

10

15

Val Cys Val Pro Leu Leu Leu Leu Pro Leu Pro Val Leu His Pro Ser

3114

450                      455                      460  
 Trp Glu Ile Val Ile Leu Val Gly Gly Gly Tyr Ala Leu Ala Ser Gly  
 465                      470                      475                      480  
 Ser Lys Ser Ser Gly Leu Ser Thr Trp Ile Gly Asn Gln Met Leu Ser  
                     485                      490                      495  
 Leu Ser Ser Leu Pro Pro Trp Ala Val Thr Leu Leu Ala Cys Ile Leu  
                     500                      505                      510  
 Val Ser Ile Val Thr Glu Phe Val Ser Asn Pro Ala Thr Ile Thr Ile  
                     515                      520                      525  
 Phe Leu Pro Ile Leu Cys Ser Leu Ser Glu Thr Met His Ile Asn Pro  
                     530                      535                      540  
 Leu Tyr Thr Leu Ile Pro Val Thr Met Cys Ile Ser Phe Ala Val Met  
 545                      550                      555                      560  
 Leu Pro Val Gly Asn Pro Pro Asn Ala Ile Val Phe Ser Tyr Gly His  
                     565                      570                      575  
 Cys Gln Ile Lys Asp Met Val Lys Ala Gly Leu Gly Val Asn Val Ile  
                     580                      585                      590  
 Gly Leu Val Ile Val Met Val Ala Ile Asn Thr Trp Gly Val Ser Leu  
                     595                      600                      605  
 Phe His Leu Asp Thr Tyr Pro Ala Trp Ala Arg Val Ser Asn Ile Thr  
                     610                      615                      620  
 Asp Gln Ala  
 625

&lt;210&gt; 3955

&lt;211&gt; 522

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3955

nngaattcag aggactatgt ttttgacagt gtttctggga acaactttga atatacccta  
 60  
 gaagcttcaa aatcacttcg acagaagcca ggagacagta ccatgacgta cctgaacaaa  
 120  
 ggccagttct atcccatcac cttgaaggag gtgagcagca gtgaaaatcc atcatcccat  
 180  
 agcaaaagtc gaagtgtgat catggtggtt tttgctgaag acaaaagcag agaagatcag  
 240  
 ttaaggcatt ggaagtactg gcactcccgg cagcacaccg ctaaacaag atgcattgac  
 300  
 atagctgact ataaagaaag cttcaacact atcagtaaca tcgaggagat tgcgtataac  
 360  
 gccatttcct tcacatggga catcaacgat gaagcaaagg ttttcatctc tgtgaactgc  
 420  
 ttaagcacag atttctcttc ccagaaggga gtgaaggggt tgcctcttaa cattcaagtt  
 480  
 gatacctata gttacaacaa ccgcagcaac aagcctgtgc ac  
 522

&lt;210&gt; 3956

&lt;211&gt; 174

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3956

Xaa Asn Ser Glu Asp Tyr Val Phe Asp Ser Val Ser Gly Asn Asn Phe  
 1 5 10 15  
 Glu Tyr Thr Leu Glu Ala Ser Lys Ser Leu Arg Gln Lys Pro Gly Asp  
 20 25 30  
 Ser Thr Met Thr Tyr Leu Asn Lys Gly Gln Phe Tyr Pro Ile Thr Leu  
 35 40 45  
 Lys Glu Val Ser Ser Ser Glu Asn Pro Ser Ser His Ser Lys Val Arg  
 50 55 60  
 Ser Val Ile Met Val Val Phe Ala Glu Asp Lys Ser Arg Glu Asp Gln  
 65 70 75 80  
 Leu Arg His Trp Lys Tyr Trp His Ser Arg Gln His Thr Ala Lys Gln  
 85 90 95  
 Arg Cys Ile Asp Ile Ala Asp Tyr Lys Glu Ser Phe Asn Thr Ile Ser  
 100 105 110  
 Asn Ile Glu Glu Ile Ala Tyr Asn Ala Ile Ser Phe Thr Trp Asp Ile  
 115 120 125  
 Asn Asp Glu Ala Lys Val Phe Ile Ser Val Asn Cys Leu Ser Thr Asp  
 130 135 140  
 Phe Ser Ser Gln Lys Gly Val Lys Gly Leu Pro Leu Asn Ile Gln Val  
 145 150 155 160  
 Asp Thr Tyr Ser Tyr Asn Asn Arg Ser Asn Lys Pro Val His  
 165 170

&lt;210&gt; 3957

&lt;211&gt; 3891

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3957

nnctgcaggg aagccaatga tgcctcaat gcgtatgtgt gcaaaggcct cccccagcat  
 60  
 gaagaaatct gcctgggcct gtttactctc atcctcactg aacctgccca agcccagaag  
 120  
 tgttaccggg acttagctct ggtgagtcgt gatggcatga atattgtcct gaataaaatc  
 180  
 aaccagatac ttatggagaa gtacctgaag ctgcaggata cctgccgtac tcagttggtg  
 240  
 tggttggtac gggaactggt gaagagtggg gttctgggag ccgatggtgt ttgtatgacg  
 300  
 tttatgaagc agattgcagg tggagatggt acagccaaaa atatctggtt ggcagaaagt  
 360  
 gttctggata tcctgacaga gcaaaggag tgggtcctga agagcagcat cctcattgcc  
 420  
 atggctgttt acacgtacct ccgcctcatc gtggaccacc atgggactgc ccagctccag  
 480  
 gccctgcgac agaaggaagt agacttctgc atctcactgc ttcgggaacg gttcatggaa  
 540  
 tgtctgatga ttggtcgga tctcgtaaga ctacttcaga atgttgctag gataccagaa  
 600  
 tttgaactgc ttggaaaga tattatccat aatcctcagg ccttgagtcc tcagttcaca  
 660  
 ggtatcctac agcttcttca gtcaagaaca tcccgaat tctagcatg tcgtctaacc  
 720

ccggacatgg agactaaact cctcttcatg acatcccggg tgcgatttgg tcaacaaaag  
780  
cgataccaag attggttcca ggcgcagtac ctgtcaactc cagatagtea gtctctgcgc  
840  
tgtgacctca ttcgctacat ctgtggggta gtccaccctt ctaatgaagt actgagtcca  
900  
gatatcttgc cccggtgggc catcattggt tggctcctga caacgtgcac gtcaaagtgc  
960  
gctgcctcca atgccaagct ggctttgttt tatgactggc tgttctttag tccagacaag  
1020  
gatagcatta tgaacataga accagccatc ctggtcatgc accactccat gaagccccac  
1080  
ccagccatca ctgccacact cctggacttc atgtgccgca tcattcccaa cttctatcca  
1140  
ccattggagg gccacgtgcg gcagggtgct ttttctccc tcaaccacat tgtggagaaa  
1200  
cgggtcttgg cgtgtaaaaa gtattggctc tacctcagac tgctgggcat atgtcttctt  
1260  
nggctcttag aggaatttct ctctgccat cgtattaca agacacctag ctcccctgtt  
1320  
tgacaaccct aagttggata aggagctgcg ggcaatgctg agagagaagt ttctgagtt  
1380  
ctgcagctca cctcccccac ctgtggaagt caaaattgag gagccagttt ccatggagat  
1440  
ggacaaccat atgtcggata aggatgagag ttgctatgac aatgcagagg cagccttcag  
1500  
tgacgatgaa gaggatctca acagcaaagg aaagaagagg gagtttcgct tccaccctat  
1560  
caaggagaca gttgtggagg agccagtga taccaccct taccttgacc agttggatga  
1620  
gtccctgagg gacaaagtac tccagctaca gaaggggagt gatacggagg cccagtgtga  
1680  
ggatcatgcag gaaattgtgg accaggtcct ggaggaagac tttgactcgg agcagctgct  
1740  
tgtccttgct tctgcctac aggagctctt caaggccac tttcgagggg aggtcctgcc  
1800  
tgaggagatt actgaggagt ccctggagga gtctgtagga aagcctctgt acctaatatt  
1860  
taggaacctt tgatcagatgc aggaagacaa cagcagcttc tctctacttc tagaccttct  
1920  
ctccgagcta tatcagaagc agcccaagat tggctaccac ctgctctact acctgagggc  
1980  
cagcaaagcc gccgcaggga agatgaacct gtacgagtca tttgccagg ctaccagct  
2040  
gggcatctg cacacctgcc tgatgatgga catgaaggcc tgccaggagg acgatgtgcg  
2100  
gctcctgtgc cacctcacgc cctccatcta cacagagttt ccagatgaaa ccttgaggag  
2160  
cggagagctg ctgaacatga tcgtggctgt tattgactct gcacagctcc aggagctggt  
2220  
ctgccacgtg atgatgggta acctggttat gtttcgaaaa gactcagttc tcaacatact  
2280  
cattcagagc ctagactggg agacctttga gcagtattgt gcctggcagc tctttctggc  
2340

ccacaatatt cccctggaga ccataatccc catcctgcag cacctcaaat acaaggagca  
2400  
cccagaggcc ctgtcctgcc tactgcttca actccgaaga gaaaagccca gcgaggagat  
2460  
ggtgaagatg gtgctgagcc ggccctgcc tcttgacgac cagttcacca ccagcatcct  
2520  
gcggcactgg tgcataaac atgacgagct gctggccgag cacatcaagt ccctgctcat  
2580  
caagaacaac agcctgcctc gcaagagaca gagcctgagg agctctagca gcaagctggc  
2640  
ccagctgact ctggagcaga tcttgagca cttggacaat ctggggctca acctgaccaa  
2700  
caccaagcag aactttttta gccagacccc aattctccag gcgctgcagc atgtccaagc  
2760  
gagctgtgac gaagcccaca agatgaaatt cagtgatctc ttctccctgg cggaggaata  
2820  
tgaggactct tccaccaagc cacccaagag ccggcgaaaa gcagctctgt ccagccctcg  
2880  
aagtcgaaag aatgccacac agcccccaa tgccgaagaa gagtcgggct ccagcagtcg  
2940  
ttcagaagag gaagacacga aaccgaagcc taccaagcgg aaacgaaaag ggtcctctgc  
3000  
agtgggctct gacagtgact gaggccctgc attccccatc ccacccccgg ctggactgcc  
3060  
ctctccttct tggtgattca aaggttaata gaggctgagg agattgcagg ggaaacaccc  
3120  
ttgctgcac cccaagctcc cccggtggaa ggaggagctt tctcctctgg ctgagtttga  
3180  
gaagctgcc tgcagccctc agcccttcc ctctcctgg ggccctccagc ccctcacact  
3240  
gctgttccca gtgatatttg gtagctgact gaagccagag gctctgtaa atcagaccat  
3300  
agtggaagtc ctacgccccc tggcccttcc cgcaatctcc tccccagtc tcccaaagag  
3360  
ccatttcaac agagaaggga aatgacaaaag gggcagctgg ccagataagc taggatgaga  
3420  
gcagagactc agtgtgtggg tgtcccttcc tgcctccctc tcaggtcttg gtttgttctg  
3480  
aagggaagtt ttatagtcac tatccacatg ccagtgtgaa atgggcatct atgacgtggt  
3540  
cagggtgtcc attcctaate atggggcaga tgccacaagc attcagaaaag gagtctgaaa  
3600  
gggtggccac agccccacgt ggtgtgccct ggaggcttag gttggtctga ggttggcacc  
3660  
tcaatctaca ccagagccca gggagtccca gaggcaagtt tcacagaatt gtcaaatgat  
3720  
cccatttctc tgagtctgtt tttttttttt tttttttttg tttttttttt ggcagagata  
3780  
atcgtgtctt aaaaagttgtt tttaaatgac aataaaacaa gccagaatgt caaaaaaaaa  
3840  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a  
3891

&lt;210&gt; 3958

&lt;211&gt; 440

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3958

Xaa Cys Arg Glu Ala Asn Asp Ala Leu Asn Ala Tyr Val Cys Lys Gly  
 1 5 10 15  
 Leu Pro Gln His Glu Glu Ile Cys Leu Gly Leu Phe Thr Leu Ile Leu  
 20 25 30  
 Thr Glu Pro Ala Gln Ala Gln Lys Cys Tyr Arg Asp Leu Ala Leu Val  
 35 40 45  
 Ser Arg Asp Gly Met Asn Ile Val Leu Asn Lys Ile Asn Gln Ile Leu  
 50 55 60  
 Met Glu Lys Tyr Leu Lys Leu Gln Asp Thr Cys Arg Thr Gln Leu Val  
 65 70 75 80  
 Trp Leu Val Arg Glu Leu Val Lys Ser Gly Val Leu Gly Ala Asp Gly  
 85 90 95  
 Val Cys Met Thr Phe Met Lys Gln Ile Ala Gly Gly Asp Val Thr Ala  
 100 105 110  
 Lys Asn Ile Trp Leu Ala Glu Ser Val Leu Asp Ile Leu Thr Glu Gln  
 115 120 125  
 Arg Glu Trp Val Leu Lys Ser Ser Ile Leu Ile Ala Met Ala Val Tyr  
 130 135 140  
 Thr Tyr Leu Arg Leu Ile Val Asp His His Gly Thr Ala Gln Leu Gln  
 145 150 155 160  
 Ala Leu Arg Gln Lys Glu Val Asp Phe Cys Ile Ser Leu Leu Arg Glu  
 165 170 175  
 Arg Phe Met Glu Cys Leu Met Ile Gly Arg Asp Leu Val Arg Leu Leu  
 180 185 190  
 Gln Asn Val Ala Arg Ile Pro Glu Phe Glu Leu Leu Trp Lys Asp Ile  
 195 200 205  
 Ile His Asn Pro Gln Ala Leu Ser Pro Gln Phe Thr Gly Ile Leu Gln  
 210 215 220  
 Leu Leu Gln Ser Arg Thr Ser Arg Lys Phe Leu Ala Cys Arg Leu Thr  
 225 230 235 240  
 Pro Asp Met Glu Thr Lys Leu Leu Phe Met Thr Ser Arg Val Arg Phe  
 245 250 255  
 Gly Gln Gln Lys Arg Tyr Gln Asp Trp Phe Gln Arg Gln Tyr Leu Ser  
 260 265 270  
 Thr Pro Asp Ser Gln Ser Leu Arg Cys Asp Leu Ile Arg Tyr Ile Cys  
 275 280 285  
 Gly Val Val His Pro Ser Asn Glu Val Leu Ser Ser Asp Ile Leu Pro  
 290 295 300  
 Arg Trp Ala Ile Ile Gly Trp Leu Leu Thr Thr Cys Thr Ser Asn Val  
 305 310 315 320  
 Ala Ala Ser Asn Ala Lys Leu Ala Leu Phe Tyr Asp Trp Leu Phe Phe  
 325 330 335  
 Ser Pro Asp Lys Asp Ser Ile Met Asn Ile Glu Pro Ala Ile Leu Val  
 340 345 350  
 Met His His Ser Met Lys Pro His Pro Ala Ile Thr Ala Thr Leu Leu  
 355 360 365  
 Asp Phe Met Cys Arg Ile Ile Pro Asn Phe Tyr Pro Pro Leu Glu Gly  
 370 375 380  
 His Val Arg Gln Gly Val Phe Ser Ser Leu Asn His Ile Val Glu Lys

```

385          390          395          400
Arg Val Leu Ala Cys Lys Lys Tyr Trp Leu Tyr Leu Arg Leu Leu Gly
          405          410          415
Ile Cys Leu Leu Xaa Leu Leu Glu Glu Phe Leu Ser Cys His Arg Ile
          420          425          430
Thr Lys Thr Pro Ser Ser Pro Val
          435          440

```

<210> 3959  
 <211> 752  
 <212> DNA  
 <213> Homo sapiens

```

<400> 3959
cccagcagtt cacaggaaga gagcttcggt gggtcagatg gtcaacagta tcaaaatatt
60
caacagagac cactctgtgg gttttcaaata gataggatac acatcagcag tcctctggga
120
agaaaaatgtc ttctcccata tacagagacc ctcataccat ttggggacat tgcccaaaa
180
ggacgggctt tggcgtgaaa gaacatttct accccggctg tttgtgtgct gtcacccag
240
gtcagggctg aataatgacc acttggtaga cctgggtgctc acagagcctt catttggtt
300
tataaggggc caaattcacc tctcgatttc cttttttcct ttcagaatgc agtttccaag
360
tacggctctc agttccaagg caattcccag cagcagccc tggaattcct gctctggtt
420
ctggatcgtg tacatgagga cctggagggt tcatcccgat gggccagggtg tcggagaagc
480
ttccgcctga agccactaaa acctctgaga actgcctgtc accatcagct cagcttcctc
540
taggtcaaag cttgtgcaaa ccactttcaa gcacaatata gatcttcggt gattgtcccc
600
actgcttgaa cagagcacac tttgtccttc ctgggtgtgt cctactatcg cttgcgcgac
660
ggggtctgag tgtacttggg ttctctctaaa gcaacgttct gcggttggt gcgtgcgac
720
tcagaaatgg acctgggaga ttgaaagag ag
752

```

<210> 3960  
 <211> 94  
 <212> PRT  
 <213> Homo sapiens

```

<400> 3960
Pro Leu Gly Arg Pro Gly Ala His Arg Ala Phe Ile Trp Leu Tyr Lys
1      5      10      15
Gly Pro Asn Ser Pro Leu Asp Phe Leu Phe Ser Phe Gln Asn Ala Val
20     25     30
Ser Lys Tyr Gly Ser Gln Phe Gln Gly Asn Ser Gln His Asp Ala Leu
35     40     45
Glu Phe Leu Leu Trp Leu Leu Asp Arg Val His Glu Asp Leu Glu Gly

```



50		55		60
Ser Ser Arg Trp Ala Arg Cys Arg Arg Ser Phe Arg Leu Lys Pro Leu				
65		70		75
Lys Pro Leu Arg Thr Ala Cys His His Gln Leu Ser Phe Leu				80
	85		90	

&lt;210&gt; 3961

&lt;211&gt; 2505

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3961

```

nngcggaggc ggcgttgccg ggctctccgg aaggagacgt ggcggcggtt gggccgggtga
60
taccggggcg ctttatagtc cgcgcgcctc ctctccacc tctcctctct cctcctctcc
120
tcctggggca gaggaggttg tggcgggtggc tggagaaagc ggcggcggag gatggaggaa
180
ggaggcggcg gcgtacggag tctgggtccg ggcggggcgg tgttactggt cctctgcggc
240
ctctggaggc cgtccggcgg cggccgagcc ctctctcaac tcagcgatga catccctttc
300
cgagtcaact ggcccggcac cgagttctct ctgccacaa ctggagtttt atataaagaa
360
gataattatg tcatcatgac aactgcacat aaagaaaaat ataatgcat acttcccctt
420
gtgacaagtg gggatgagga agaagaaaag gattataaag gccctaatac aagagagctt
480
ttggagccac tatttaaaca aagcagttgt tctacagaa ttgagtctta ttggacttac
540
gaagtatgtc atggaaaaca cattcggcag taccatgaag agaaagaaac tggtcagaaa
600
ataaatattc acgagtacta ccttgggaat atgttggcca agaaccttct atttgaaaaa
660
gaacgagaag cagaagaaaa ggaaaaatca aatgagattc ccactaaaaa tatcgaaggt
720
cagatgacac catactatcc tgtgggaatg ggaaatggta caccttgtag tttgaaacag
780
aaccggccca gatcaagtac tgtgatgtac atatgtcatc ctgaatctaa gcatgaaatt
840
ctttcagtag ctgaagttac aacttgtgaa tatgaagttg tcattttgac accactcttg
900
tgcagtcatc ctaaatatag gtccagagca tctcctgtga atgacatatt ttgtcaatca
960
ctgccaggat ctccatttaa gcccctcacc ctgaggcagc tggagcagca ggaagaaata
1020
ctaagggtgc cttttaggag aaataaagag gaagatttgc agtcaactaa agaagagaga
1080
tttccagcga tccacaagtc gattgctatt ggctctcagc cagtgtcac tgttgggaca
1140
accacatat ccaaattgac agatgaccaa ctcataaaag agtttcttag tggttcttac
1200
tgctttcgtg ggggtgtcgg ttggtggaaa tatgaattct gctatggcaa acatgtacat
1260

```

caataccatg aggacaagga tagtgggaaa acctctgtgg ttgtcgggac atggaaccaa  
 1320  
 gaagagcata ttgaatgggc taagaagaat actgctagag cttatcatct tcaagacgat  
 1380  
 ggtacccaga cagtcaggat ggtgtcacat ttttatggaa atggagatat ttgtgatata  
 1440  
 actgacaaac caagacaggt gactgtaaaa cttaaagtgc aagaatcaga ttcacctcat  
 1500  
 gctgttactg tatatatgct agagcctcac tctgtcaat atattcttgg ggttgaatct  
 1560  
 ccagtgatct gtaaaatctt agatacagca gatgaaaatg gacttctttc tctccccaac  
 1620  
 taaaggatat taaagttagg ggaaagaaaa gatcattgaa agtcatgata atttctgtcc  
 1680  
 cactgtgtct cattatagag ttctcagcca ttggacctct tctaaaggat ggtataaaat  
 1740  
 gactctcaac cactttgtga atacatatgt gtatataaga ggttattgat aaacttctga  
 1800  
 ggagacatt tgtctcgctt tttttcattt ttgttggtgc ttataaactg actgtttttc  
 1860  
 tttgcttgga tactgtgatt ccaaaataaa tctcatccaa gcaagttaga gtccagccta  
 1920  
 atcaaatgtc ataattgttg tacttattga aagtttttaa ataatagatt tattatgtaa  
 1980  
 attatagat atgtaagtag ctaatgaagt aaagatcatg aagaaagaaa ttgatagggt  
 2040  
 taaatgagag accatgtaaa atatgtaaat tctagtacct gaaatccttt caacagattt  
 2100  
 ttatatagca actgctctct gcaagtagtt aaactagaaa ctgggcacat ggtagaggct  
 2160  
 cacatgggag ttgtcctcac cttgtttaat ctcaagaaac tcttatttat aataggttgc  
 2220  
 ttctctctca gaacttttat ctattacttt tttcttctta tgagtatgtt tactctcaga  
 2280  
 gtatctatct gatgtagaca gttggtgatg cttctgagac tcagaatggt ttactctaac  
 2340  
 aaaacactgt gctgtctatc cttgtactt gcctactgta atatggattt cacttctgaa  
 2400  
 cagtttacag cacaatattt attttaaagt gaataaaatg tccacaagca gtgttgatc  
 2460  
 gtagtcaatg gcaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa  
 2505

&lt;210&gt; 3962

&lt;211&gt; 306

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3962

Thr	Lys	Asn	Ile	Glu	Gly	Gln	Met	Thr	Pro	Tyr	Tyr	Pro	Val	Gly	Met
1				5				10					15		
Gly	Asn	Gly	Thr	Pro	Cys	Ser	Leu	Lys	Gln	Asn	Arg	Pro	Arg	Ser	Ser
			20					25					30		
Thr	Val	Met	Tyr	Ile	Cys	His	Pro	Glu	Ser	Lys	His	Glu	Ile	Leu	Ser

35 40 45  
 Val Ala Glu Val Thr Thr Cys Glu Tyr Glu Val Val Ile Leu Thr Pro  
 50 55 60  
 Leu Leu Cys Ser His Pro Lys Tyr Arg Phe Arg Ala Ser Pro Val Asn  
 65 70 75 80  
 Asp Ile Phe Cys Gln Ser Leu Pro Gly Ser Pro Phe Lys Pro Leu Thr  
 85 90 95  
 Leu Arg Gln Leu Glu Gln Gln Glu Glu Ile Leu Arg Val Pro Phe Arg  
 100 105 110  
 Arg Asn Lys Glu Glu Asp Leu Gln Ser Thr Lys Glu Glu Arg Phe Pro  
 115 120 125  
 Ala Ile His Lys Ser Ile Ala Ile Gly Ser Gln Pro Val Leu Thr Val  
 130 135 140  
 Gly Thr Thr His Ile Ser Lys Leu Thr Asp Asp Gln Leu Ile Lys Glu  
 145 150 155 160  
 Phe Leu Ser Gly Ser Tyr Cys Phe Arg Gly Gly Val Gly Trp Trp Lys  
 165 170 175  
 Tyr Glu Phe Cys Tyr Gly Lys His Val His Gln Tyr His Glu Asp Lys  
 180 185 190  
 Asp Ser Gly Lys Thr Ser Val Val Val Gly Thr Trp Asn Gln Glu Glu  
 195 200 205  
 His Ile Glu Trp Ala Lys Lys Asn Thr Ala Arg Ala Tyr His Leu Gln  
 210 215 220  
 Asp Asp Gly Thr Gln Thr Val Arg Met Val Ser His Phe Tyr Gly Asn  
 225 230 235 240  
 Gly Asp Ile Cys Asp Ile Thr Asp Lys Pro Arg Gln Val Thr Val Lys  
 245 250 255  
 Leu Lys Cys Lys Glu Ser Asp Ser Pro His Ala Val Thr Val Tyr Met  
 260 265 270  
 Leu Glu Pro His Ser Cys Gln Tyr Ile Leu Gly Val Glu Ser Pro Val  
 275 280 285  
 Ile Cys Lys Ile Leu Asp Thr Ala Asp Glu Asn Gly Leu Leu Ser Leu  
 290 295 300  
 Pro Asn  
 305

&lt;210&gt; 3963

&lt;211&gt; 1513

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3963

cttaaggtgt attaatccgt cactataccc agataaacag agatggccat ggcattctttt  
 60  
 ctactctttt attttacaaa gggaatgatg aaaggtggaa acaaacaaga agaagcgtgg  
 120  
 ataaatccat ttgttaaaca gttttcaaac atcagttttt cgagagactc accagaggaa  
 180  
 aatgtacaaa gcaataagat ggacctttct ggaggaatgt tacaagacaa acgaatggag  
 240  
 atagataaac atagcctaaa tattggtgat tacaatcgaa cggtcgggaa aggccttggt  
 300  
 tctcgccctc agatttccaa agagtcttcc atggagcgca atccttattt tgataagaat  
 360

ggcaatccca gtatgtttgg tgttggaac acagcagcac aaccccgggg catgcagcag  
 420  
 cctccagcac aacctcttag ttcattctcag cctaattctcc gtgctcaagt gcctcctcca  
 480  
 ttattctccc ctgaggttcc agtttcattg ctgaagtatg caccaaaca cgggtggcctg  
 540  
 aatccactct ttggccctca acaggtagcc atgctgaacc agctatccca gctaaaccag  
 600  
 ctttctcaga tctccagtt acagcgattg ttagcgcagc agcaaagggc gcagagtcag  
 660  
 agaagcgtgc cttctgggaa ccggccgcag caagaccagc agggctcgacc tcttagtggt  
 720  
 cagcagcaaa tgatgcaaca atctcgtcaa cttgatccaa acctgttggt gaagcagcag  
 780  
 actccaccat ctgagcagca gccactccat cagccagcca tgaagtcttt ccttgacaat  
 840  
 gtcatgcccc acactacacc tgagctgcaa aaagggccat caccaataaa tgctttcagc  
 900  
 aacttcccta taggcttgaa ctcaaacttg aatgtaaata tggatatgaa cagtattaaa  
 960  
 gagccacagt caagactaag gaagtggacg acagtggaca gcatttctgt gaacacatct  
 1020  
 ttggatcaaa actccagcaa acatgggtgct atttcaagtg gtttcaggct ggaagagtct  
 1080  
 ccatttggtc cctatgactt tatgaacagc agtacttcac cagccagtcc tccaggttca  
 1140  
 ataggagatg gctggccacg tgccaaatcg cctaacggct ctagcagtgt taattggcca  
 1200  
 ccagaatttc gtcttggtga gccatggaaa ggttatccaa acattgaccc tgaaactgac  
 1260  
 ccttacgtca ctctggcag tgcataaac aatcttccaa ttaatactgt gcgggaagtt  
 1320  
 gaccacctca gggacaggaa cagtggtagc taggggggtgc aaatcaattt ctgagtgaca  
 1380  
 cttaacacag ttaagaatg gctcatgtag taaccagcta ctctgggcga ctgagcccag  
 1440  
 ggtactctgg gatcaattga gccaggagc ttgagcaagc ctgggcaaca tagttgtggg  
 1500  
 accctgtctc ttt  
 1513

&lt;210&gt; 3964

&lt;211&gt; 436

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3964

Met	Ala	Met	Ala	Ser	Phe	Leu	Leu	Phe	Tyr	Phe	Thr	Lys	Gly	Met	Met
1				5					10					15	
Lys	Gly	Gly	Asn	Lys	Gln	Glu	Glu	Ala	Trp	Ile	Asn	Pro	Phe	Val	Lys
			20					25					30		
Gln	Phe	Ser	Asn	Ile	Ser	Phe	Ser	Arg	Asp	Ser	Pro	Glu	Glu	Asn	Val
		35				40						45			
Gln	Ser	Asn	Lys	Met	Asp	Leu	Ser	Gly	Gly	Met	Leu	Gln	Asp	Lys	Arg

50		55		60											
Met	Glu	Ile	Asp	Lys	His	Ser	Leu	Asn	Ile	Gly	Asp	Tyr	Asn	Arg	Thr
65					70					75					80
Val	Gly	Lys	Gly	Pro	Gly	Ser	Arg	Pro	Gln	Ile	Ser	Lys	Glu	Ser	Ser
				85					90					95	
Met	Glu	Arg	Asn	Pro	Tyr	Phe	Asp	Lys	Asn	Gly	Asn	Pro	Ser	Met	Phe
			100					105					110		
Gly	Val	Gly	Asn	Thr	Ala	Ala	Gln	Pro	Arg	Gly	Met	Gln	Gln	Pro	Pro
			115				120					125			
Ala	Gln	Pro	Leu	Ser	Ser	Ser	Gln	Pro	Asn	Leu	Arg	Ala	Gln	Val	Pro
	130					135					140				
Pro	Pro	Leu	Leu	Ser	Pro	Gln	Val	Pro	Val	Ser	Leu	Leu	Lys	Tyr	Ala
145				150					155						160
Pro	Asn	Asn	Gly	Gly	Leu	Asn	Pro	Leu	Phe	Gly	Pro	Gln	Gln	Val	Ala
			165					170						175	
Met	Leu	Asn	Gln	Leu	Ser	Gln	Leu	Asn	Gln	Leu	Ser	Gln	Ile	Ser	Gln
		180					185						190		
Leu	Gln	Arg	Leu	Leu	Ala	Gln	Gln	Gln	Arg	Ala	Gln	Ser	Gln	Arg	Ser
	195					200					205				
Val	Pro	Ser	Gly	Asn	Arg	Pro	Gln	Gln	Asp	Gln	Gln	Gly	Arg	Pro	Leu
	210					215				220					
Ser	Val	Gln	Gln	Gln	Met	Met	Gln	Gln	Ser	Arg	Gln	Leu	Asp	Pro	Asn
225				230					235					240	
Leu	Leu	Val	Lys	Gln	Gln	Thr	Pro	Pro	Ser	Gln	Gln	Gln	Pro	Leu	His
			245					250						255	
Gln	Pro	Ala	Met	Lys	Ser	Phe	Leu	Asp	Asn	Val	Met	Pro	His	Thr	Thr
	260						265					270			
Pro	Glu	Leu	Gln	Lys	Gly	Pro	Ser	Pro	Ile	Asn	Ala	Phe	Ser	Asn	Phe
	275					280					285				
Pro	Ile	Gly	Leu	Asn	Ser	Asn	Leu	Asn	Val	Asn	Met	Asp	Met	Asn	Ser
	290				295				300						
Ile	Lys	Glu	Pro	Gln	Ser	Arg	Leu	Arg	Lys	Trp	Thr	Thr	Val	Asp	Ser
305				310					315					320	
Ile	Ser	Val	Asn	Thr	Ser	Leu	Asp	Gln	Asn	Ser	Ser	Lys	His	Gly	Ala
			325					330						335	
Ile	Ser	Ser	Gly	Phe	Arg	Leu	Glu	Glu	Ser	Pro	Phe	Val	Pro	Tyr	Asp
	340					345					350				
Phe	Met	Asn	Ser	Ser	Thr	Ser	Pro	Ala	Ser	Pro	Pro	Gly	Ser	Ile	Gly
	355					360					365				
Asp	Gly	Trp	Pro	Arg	Ala	Lys	Ser	Pro	Asn	Gly	Ser	Ser	Ser	Val	Asn
	370				375				380						
Trp	Pro	Pro	Glu	Phe	Arg	Pro	Gly	Glu	Pro	Trp	Lys	Gly	Tyr	Pro	Asn
385				390					395					400	
Ile	Asp	Pro	Glu	Thr	Asp	Pro	Tyr	Val	Thr	Pro	Gly	Ser	Val	Ile	Asn
			405					410					415		
Asn	Leu	Pro	Ile	Asn	Thr	Val	Arg	Glu	Val	Asp	His	Leu	Arg	Asp	Arg
	420					425					430				
Asn	Ser	Gly	Thr												
	435														

&lt;210&gt; 3965

&lt;211&gt; 2850

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<400> 3965  
ngttgcgggg ccacccttcc cgctggtttc cctcgtggtg tgtaaaggca gagaggaaag  
60  
gcgagggggtg ttgacgccag gaagggtcca tcttggttaa gggcaggagt cccttacgga  
120  
cttgtctgag gaaagacagg aaagcgccag catctccacc tccccggaa gctcccttt  
180  
gccaggcaga aagggtttcc catggggccg cccctggcgc cgcgcccggc ccacgtaccc  
240  
ggggaggccg ggccccggag gacgaggga agcaggccgg gcgccgtgag cttcgcgga  
300  
gtggccgtgt acttctctcc cgaggagtgg gaatgcctgc ggccagcgca gagggccctg  
360  
taccgggacg tgatgcggga gaccttcggc cacctggcgc cgctgggtga ggccgggccc  
420  
tccggccggg acccccagtc cgtcggattt tcagttccca aaccgccttt tatctcgtgg  
480  
gtggaaggag aagtggaggc gtggagcccg gaggccagg atcccgacgg tgagagctct  
540  
gcagctttca gcaggggcca aggacaggaa gcaggatcca gggatgggaa tgaggagaag  
600  
gaaaggctga agaagtgtcc aaaacaaaaa gaggtggcgc atgaagtggc tgtcaaggag  
660  
tggtggccca gcgtgcctg cccagagttc tgcaacccta ggagagccc catgaatccc  
720  
tggtcaagg acaactctgac ccgaagactg cccactctt gccagactg tggccgcaac  
780  
ttcagctacc ctccctcct ggccagccac cagcgggtcc actccgggga gcggcccttc  
840  
tcctgcggcc agtgtcaggc gcgtttctcc cagcgcaggc acctgctcca gcatcagttc  
900  
atccacaccg gcgagaagcc ctaccctgc cccgactgcg ggccgctt cgcagagg  
960  
ggttccctgg ctatccacag gcgggtcac accggggaga agccttacgc gtgctcagac  
1020  
tgcaagagtc gttcactta cccctacctg ctggccatcc accagcgcaa gcacacgggc  
1080  
gagaagccct acagctgccc cgattgcagc ctccgtttcg cctacacctc cctgctggcc  
1140  
atccacaggc gcatacacac cggcgagaag ccctaccct gtctgactg cggccgccc  
1200  
ttcacctatt ctccctcct cctcagtcac cggcgcttc actccgacag ccggcccttc  
1260  
ccctgcgtgg agtgtgggaa aggttcaag cgcaagaccg ccctggaagc ccatcggtgg  
1320  
atccaccgct cctgcagcga gaggcgcgcg tggcagcagg ccgtggtggg gcgttcagag  
1380  
cccatccctg ttttgggagg caaggatccc ccagttcact tccggcactt tccagatata  
1440  
tttcaagagt tctgtcaaca gaggttcag gaccgcgggg tcccttcaaa tgccccgcca  
1500  
gtcccaggcc aatcaccgag cagcttcttc cgggatcgtc gccaatcatc ggccgttgcg  
1560

tattgcgggc acagaggggt aagtgaagct tcgggccctt acatctttct tgaaggcaag  
 1620  
 aagcctctcc tctacttccc agacaccccg cctccccac tagaaaaagc agccgaagcg  
 1680  
 gctttattta agggcaagtg ggacgatgag gccagagaaa tggcgccgcc cccagccccg  
 1740  
 ctctggcgc cgaggcccg ggagaccgg cctggttgca ggaagcccg gactgtgagc  
 1800  
 ttgcgggacg tggccgtgta cttctcccg gaggagtggg gctgtctgcg gcccgcgag  
 1860  
 agggctctgt accgggacgt gatgcaggag acctacggcc acctgggcgc gctcggattc  
 1920  
 ccaggcccca aaccagccct catctcttgg atggaacagg agagtgaggc ttggagcccc  
 1980  
 gccgcccagg atcctgagaa ggggaaaga ctgggaggag ctcgagagg agatgtccca  
 2040  
 aacaggaagg aagaggaacc ggaggaagtc ccaagagcca aaggccctag aaaggctcct  
 2100  
 gtgaaggaga gtcctgaagt gctggtggaa cgcaaccctg acccagctat tagcgtggcc  
 2160  
 ccggcacggg cacagccacc caaaaatgct gcctgggacc cgaccacagg agcacagccc  
 2220  
 ccggcaccca taccagcat ggatgctcag gccggccagc ggcgccacgt gtgcacggac  
 2280  
 tgcggccgcc gcttcaccta cccctcactg ctggtcagcc acaggcgcat gcactcgggg  
 2340  
 gaggcgctt tccctgccc cgagtgtggc atgcgttca agaggaagtt cgcagtggaa  
 2400  
 gcgcaccagt ggatccaccg ctctgctcc ggggggcggc ggggcccggag gcctgggatc  
 2460  
 cgggctgtgc ctccggcccc cgtccgaggt gaccgggacc cgcctgtgct cttccggcac  
 2520  
 taccagaca tcttcgagga gtgcggctga gcggcaccgc aggctggagt tgagcctgac  
 2580  
 cttggcacga aggactgacg gatccctgag gtgggccact gagtcgggga ctccggaact  
 2640  
 gaaattcatg ccctgggctt tcctcaagga tcctcaagt ttccaacttg taaaaagaaa  
 2700  
 agtgcctgta aagattcgaa tagattagac ttgccacca tctccccagt cttttgttta  
 2760  
 acaaaaaaaaa aaaaaaaaaa aaaaaaaaaag aagagagtga gacctggac tcatttcaaa  
 2820  
 gtgttatctg aagatcaggt gcaacagaga  
 2850

&lt;210&gt; 3966

&lt;211&gt; 782

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens.

&lt;400&gt; 3966

Met Gly Pro Pro Leu Ala Pro Arg Pro Ala His Val Pro Gly Glu Ala

1

5

10

15

Gly Pro Arg Arg Thr Arg Glu Ser Arg Pro Gly Ala Val Ser Phe Ala

3128



```

      450              455              460
Gly Pro Tyr Ile Phe Leu Glu Gly Lys Lys Pro Leu Leu Tyr Phe Pro
465              470              475              480
Asp Thr Pro Pro Pro Pro Leu Glu Lys Ala Ala Glu Ala Ala Leu Phe
      485              490              495
Lys Gly Lys Trp Asp Asp Glu Ala Arg Glu Met Ala Pro Pro Ala
      500              505              510
Pro Leu Leu Ala Pro Arg Pro Gly Glu Thr Arg Pro Gly Cys Arg Lys
      515              520              525
Pro Gly Thr Val Ser Phe Ala Asp Val Ala Val Tyr Phe Ser Pro Glu
      530              535              540
Glu Trp Gly Cys Leu Arg Pro Ala Gln Arg Ala Leu Tyr Arg Asp Val
545              550              555              560
Met Gln Glu Thr Tyr Gly His Leu Gly Ala Leu Gly Phe Pro Gly Pro
      565              570              575
Lys Pro Ala Leu Ile Ser Trp Met Glu Gln Glu Ser Glu Ala Trp Ser
      580              585              590
Pro Ala Ala Gln Asp Pro Glu Lys Gly Glu Arg Leu Gly Gly Ala Arg
      595              600              605
Arg Gly Asp Val Pro Asn Arg Lys Glu Glu Glu Pro Glu Glu Val Pro
      610              615              620
Arg Ala Lys Gly Pro Arg Lys Ala Pro Val Lys Glu Ser Pro Glu Val
625              630              635              640
Leu Val Glu Arg Asn Pro Asp Pro Ala Ile Ser Val Ala Pro Ala Arg
      645              650              655
Ala Gln Pro Pro Lys Asn Ala Ala Trp Asp Pro Thr Thr Gly Ala Gln
      660              665              670
Pro Pro Ala Pro Ile Pro Ser Met Asp Ala Gln Ala Gly Gln Arg Arg
      675              680              685
His Val Cys Thr Asp Cys Gly Arg Arg Phe Thr Tyr Pro Ser Leu Leu
      690              695              700
Val Ser His Arg Arg Met His Ser Gly Glu Arg Pro Phe Pro Cys Pro
705              710              715              720
Glu Cys Gly Met Arg Phe Lys Arg Lys Phe Ala Val Glu Ala His Gln
      725              730              735
Trp Ile His Arg Ser Cys Ser Gly Gly Arg Arg Gly Arg Arg Pro Gly
      740              745              750
Ile Arg Ala Val Pro Arg Ala Pro Val Arg Gly Asp Arg Asp Pro Pro
      755              760              765
Val Leu Phe Arg His Tyr Pro Asp Ile Phe Glu Glu Cys Gly
      770              775              780

```

&lt;210&gt; 3967

&lt;211&gt; 892

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3967

```

naccgcggccc gaccccggcg cgcgcgcggc ggaggacgag gaagagttgt ggcgaggcag
60
atcctgcccc gtggcgcgg cgtctcgta ggggacaccg tgggtgttaa ggatggccag
120
tactggatcc gaggccggac ctcatggac atcatcaaga ctggaggcta caaggtcagc
180

```

gccctggagg tggagtggca cctgctggcc caccacagca tcacagatgt ggctgtgatt  
 240  
 ggagttccgg atatgacatg gggccagcgg gtcactgctg tggtgaccct ccgagaagga  
 300  
 cactcactgt cccacagggg gctcaaagag tgggcccagaa atgtcctggc cccgtacgcy  
 360  
 gtgcccctcg agctgggtgct ggtggaggag atcccgcgga accagatggg caagattgac  
 420  
 aagaaggcgc tcacagggca ctccaccccc tcacgacccg gcagactggg actgcggggtc  
 480  
 tgggtggggag cagcagacgt ccccttcaca ccgagaacca cggggggcccg tccaagacct  
 540  
 ggcctccctt aaacctgaac cccccaatc aggtcacgta gaatcaagaa ctgtttggga  
 600  
 tgaaatcacc atgtgggggtc cccagcctcg ggccagttgt tgcagctcaa ggagaccgtc  
 660  
 cctggtgtca cctctgcctg gtcaccgccc acctcatctg tgcagcgcgg tgcagccagc  
 720  
 ccctggcccc acgtgctgag gcacctcccc cccacagtg cctgcagtt gccaggctct  
 780  
 ccagggcagg tcccagaggt tcccacaaa aaacaaataa agactccact ggaggaaaca  
 840  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa  
 892

&lt;210&gt; 3968

&lt;211&gt; 151

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3968

Xaa	Pro	Ala	Arg	Pro	Arg	Arg	Ala	Arg	Gly	Gly	Gly	Arg	Gly	Arg	Val
1				5					10					15	
Val	Ala	Arg	Gln	Ile	Leu	Pro	Arg	Gly	Arg	Gly	Arg	Leu	Val	Gly	Asp
			20					25				30			
Thr	Val	Val	Phe	Lys	Asp	Gly	Gln	Tyr	Trp	Ile	Arg	Gly	Arg	Thr	Ser
			35				40					45			
Val	Asp	Ile	Ile	Lys	Thr	Gly	Gly	Tyr	Lys	Val	Ser	Ala	Leu	Glu	Val
			50				55					60			
Glu	Trp	His	Leu	Leu	Ala	His	Pro	Ser	Ile	Thr	Asp	Val	Ala	Val	Ile
			65				70				75				80
Gly	Val	Pro	Asp	Met	Thr	Trp	Gly	Gln	Arg	Val	Thr	Ala	Val	Val	Thr
				85					90					95	
Leu	Arg	Glu	Gly	His	Ser	Leu	Ser	His	Arg	Glu	Leu	Lys	Glu	Trp	Ala
			100						105				110		
Arg	Asn	Val	Leu	Ala	Pro	Tyr	Ala	Val	Pro	Ser	Glu	Leu	Val	Leu	Val
			115				120					125			
Glu	Glu	Ile	Pro	Arg	Asn	Gln	Met	Gly	Lys	Ile	Asp	Lys	Lys	Ala	Leu
			130				135					140			
Ile	Arg	His	Phe	His	Pro	Ser									
			145				150								

&lt;210&gt; 3969

&lt;211&gt; 915

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3969

```

ggcacctcgg gcaggacctc cctggtcgga agtggccgtg agcccaagcc gcggtcccgg
60
gtgagtacgg ggcggggcgg aggcattgtc gaggtctctt gcctgtacgc tggaaagtgg
120
ggattgcaac tcggggaggg atggagcacg cgtcgtcgcc tgggaaacgg gtcgacccgc
180
ggaaggcgag cgggtgggac ttccggagca gttaatggtg gggaaacttt ctagtggatg
240
tgggaggagg cgggacttcc tgcagcaa at tggggctgtg cgcgctcaa gcccgtttac
300
ctgctcccca ggccggcacc caggatgggc gaggtggagg ccccgggccg cttgtggctc
360
gagagcccc ctgggggagc gcccccatc ttctgcctt cggacgggca agcctgggtc
420
ctgggcaggg gaccctgac ccaggttacg gaccggaagt gctccagaac tcaagtggag
480
ctggtcgag atcctgagac ccggacagtg gcagtgaaac aggtatcagt gcctctgcaa
540
ggccagcaa ggcctgggga tgggatttgg ggaggaattg caagccgtca gtgaaggggt
600
acattaggaa aatctgattg gggccgggcg tgggtggctca agcctgtaat cccagcactt
660
tgggaggccg aggcgggagg atcgcttgaa cccaggagtt cgagaccagc ctgagcgaca
720
tgggtgaaacc tgtctctcta aaaaattagc gggaaatggtg gcgctcctt gtagttccta
780
atcgggaggc tgaagcggga ggatcccttg agcccagtag gtcaaggggt tagtgagcag
840
tgatcaccac actgtacttc agcctgggtg acagagcgag aacctgtctc aaaaaagaa
900
aagaaaaaat atggc
915

```

&lt;210&gt; 3970

&lt;211&gt; 89

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3970

```

Met Gly Glu Val Glu Ala Pro Gly Arg Leu Trp Leu Glu Ser Pro Pro
1           5           10           15
Gly Gly Ala Pro Pro Ile Phe Leu Pro Ser Asp Gly Gln Ala Leu Val
20           25           30
Leu Gly Arg Gly Pro Leu Thr Gln Val Thr Asp Arg Lys Cys Ser Arg
35           40           45
Thr Gln Val Glu Leu Val Ala Asp Pro Glu Thr Arg Thr Val Ala Val
50           55           60
Lys Gln Val Ser Val Pro Leu Gln Gly Pro Ala Arg Pro Gly Asp Gly
65           70           75           80
Ile Trp Gly Gly Ile Ala Ser Arg Gln

```

85

&lt;210&gt; 3971

&lt;211&gt; 433

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3971

acgcgtgact gatgatgttc tagcgggaga agacagaaga aagagagaga gaatatgaat  
 60  
 gacagatatg tggatattaag agctctggga aaaaaatgga gcatggaagg gagagcccgg  
 120  
 ctggggaacg ggtaatcaga gaaaccctca ctcatagggt ggtgcccttt atgcagagac  
 180  
 ttaaaggaag gagggaggtc ccctgacaga gagaatggta agtgcaaagg tcctgggtgg  
 240  
 gcttggtgtg aggaagagca aggccagtgt ggctggaaca gagtgagtga aggggagaga  
 300  
 gttgtaagca atgagcttag acaggaaatg gggctctggtt cacatgggaa atggtaggac  
 360  
 attgtccgaa cttgggcttt tactccgggt gaaatgggca ctcctataga tgctcccgtc  
 420  
 ctaatcacca gaa  
 433

&lt;210&gt; 3972

&lt;211&gt; 120

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3972

Met	Ser	Tyr	His	Phe	Pro	Cys	Glu	Pro	Asp	Pro	Ile	Ser	Cys	Leu	Ser
1				5				10					15		
Ser	Leu	Leu	Thr	Thr	Leu	Ser	Pro	Ser	Leu	Thr	Leu	Phe	Gln	Pro	His
		20					25						30		
Trp	Pro	Cys	Ser	Ser	Ser	Thr	Gln	Ala	His	Pro	Gly	Pro	Leu	His	Leu
		35				40						45			
Pro	Phe	Ser	Leu	Ser	Gly	Asp	Leu	Pro	Pro	Ser	Phe	Lys	Ser	Leu	His
	50				55					60					
Lys	Gly	His	His	Pro	Met	Ser	Glu	Gly	Phe	Ser	Asp	Tyr	Pro	Phe	Pro
65				70				75					80		
Ser	Arg	Ala	Leu	Pro	Ser	Met	Leu	His	Phe	Phe	Pro	Arg	Ala	Leu	Asn
			85					90					95		
Thr	Thr	Tyr	Leu	Ser	Phe	Ile	Phe	Ser	Leu	Ser	Phe	Phe	Cys	Leu	Leu
		100						105					110		
Pro	Leu	Glu	His	His	Gln	Ser	Arg								
		115				120									

&lt;210&gt; 3973

&lt;211&gt; 984

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3973

ctaggtctta tccacgtga cctcaaacca gaaaacatca tgctggtgga tccatctaga  
 60  
 caaccatata gagtcaaggt catcgacttt gggtcagcca gccacgtgtc caaggctgtg  
 120  
 tgctccacct acttgcagtc cagatattac agggcccctg agatcatcct tggtttacca  
 180  
 ttttgtaggg caattgacat gtggtccctg ggctgtgtta ttgcagaatt gttcctgggt  
 240  
 tggccgttat atccaggagc ttcggagtat gatcagattc ggtatatattc acaaacacag  
 300  
 gggttgcctg ctgaatattt attaagcgcc gggacaaaga caactagggt tttcaaccgt  
 360  
 gacacggact caccatatcc tttgtggaga ctgaagacac cagatgacca tgaagcagag  
 420  
 acagggatta agtcaaaaga agcaagaaag tacattttca actgtttaga tgatatggcc  
 480  
 caggtgaaca tgacgacaga tttggaaggg agcgacatgt tggtagaaaa ggctgaccgg  
 540  
 cgggagttca ttgacctgtt gaagaagatg ctgaccattg atgctgacaa gagaatcact  
 600  
 ccaatcga aa cctgaacca tccctttgtc accatgacac acttactcga ttttccccac  
 660  
 agcacacacg tcaaactcatg tttccagaac atggagatct gcaagcgctg ggtgaatatg  
 720  
 tatgacacgg tgaaccagag caaaaccctt ttcacacgc acgtggcccc cagcacgtcc  
 780  
 accaacctga ccatgacctt taacaaccag ctgaccactg tccacaacca gccctcagcg  
 840  
 gcatccatgg ctgcagcggc ccagcggagc atgccctgc agacaggaac agcccagatt  
 900  
 tgtgcccggc ctgaccctgt ccagcaagct ctcacgtgt gtcccccccg cctgcaagcc  
 960  
 ttgcaggcct ctcccttcac gcgt  
 984

&lt;210&gt; 3974

&lt;211&gt; 328

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3974

Leu	Gly	Leu	Ile	His	Ala	Asp	Leu	Lys	Pro	Glu	Asn	Ile	Met	Leu	Val
1				5					10					15	
Asp	Pro	Ser	Arg	Gln	Pro	Tyr	Arg	Val	Lys	Val	Ile	Asp	Phe	Gly	Ser
		20						25					30		
Ala	Ser	His	Val	Ser	Lys	Ala	Val	Cys	Ser	Thr	Tyr	Leu	Gln	Ser	Arg
		35					40					45			
Tyr	Tyr	Arg	Ala	Pro	Glu	Ile	Ile	Leu	Gly	Leu	Pro	Phe	Cys	Glu	Ala
	50					55				60					
Ile	Asp	Met	Trp	Ser	Leu	Gly	Cys	Val	Ile	Ala	Glu	Leu	Phe	Leu	Gly
65					70					75				80	
Trp	Pro	Leu	Tyr	Pro	Gly	Ala	Ser	Glu	Tyr	Asp	Gln	Ile	Arg	Tyr	Ile
				85					90					95	
Ser	Gln	Thr	Gln	Gly	Leu	Pro	Ala	Glu	Tyr	Leu	Leu	Ser	Ala	Gly	Thr

```
<210> 3975
<211> 593
<212> DNA
<213> Homo sapiens
```

```

<400> 3975
ggatcccagg gaccttcctg tggccctggg gacggatggg gttcagcttg ctggagggggc
60
cggccagcct ccaacctcct cacagggaga gcctccctct cactctctc cccaggggatg
120
gctcttgggg gctcaaggga gcctgggcct ctgccagcct gcaagctgcc tccaactctc
180
agtccaggatt tggatgcccc cagtgcagtc ctgaggccgc cgccccccat cctactatcc
240
tgcttctgag gcgtctcgga atcataggcc tcccgtagaa ggggagcagc aggcgaggtc
300
tgcgtgagcc ccacagatgc ccgctcgctt gccagactta aaagtctgtg cccctccccg
360
accaccaggg taccagatc ccaggcggct cagccaggcc cagagcccca agagctgggc
420
tgttctctcc aactgggatc tggggtaggg gctgctcccc caagtccctg ggggactgtc
480
tgggacatcc aggccctgtc ttcttgtctt aaccactcac aacagagaac acgatgttct
540

```

gtccacgaaa gaaggcccca cacttctccc atccggcctc cacgtaaacy cgt  
593

<210> 3976

<211> 101

<212> PRT

<213> Homo sapiens

<400> 3976

Met	Gly	Phe	Ser	Leu	Leu	Glu	Gly	Pro	Ala	Ser	Leu	Gln	Pro	Pro	His
1				5				10					15		
Arg	Glu	Ser	Leu	Pro	Leu	His	Ser	Leu	Pro	Arg	Asp	Gly	Ser	Trp	Gly
			20					25				30			
Leu	Lys	Gly	Ala	Trp	Ala	Ser	Ala	Ser	Leu	Gln	Ala	Ala	Ser	Asn	Ser
		35				40					45				
Gln	Ser	Gly	Phe	Gly	Cys	Pro	Gln	Cys	Ser	Pro	Glu	Ala	Ala	Ala	Pro
	50				55					60					
His	Pro	Thr	Ile	Leu	Leu	Arg	Arg	Leu	Gly	Ile	Ile	Gly	Leu	Pro	
65				70				75					80		
Trp	Lys	Gly	Ser	Ser	Arg	Arg	Gly	Leu	Arg	Glu	Pro	His	Arg	Cys	Pro
			85					90					95		
Leu	Ala	Cys	Gln	Thr											
			100												

<210> 3977

<211> 2668

<212> DNA

<213> Homo sapiens

<400> 3977

ccgcgactca gtctccgcag agcccgggag ggagtagctg ggggaccccg ttgagctgcc  
60  
gaacttccgg gactcccccg cgacccctt cccagcttcc cgtccgctcc gccgcagcga  
120  
ttgtctcggg ggggtgatcc ggcacaaacc gcccgaccca ggggcccgtg cgcgtgtgga  
180  
aggggaagca cttccctcgt ggtcgcttgg aggtgcgctg gaggaggggg tgacataacc  
240  
agggactcga ggtccgcccgt gggaatgatc cacgaactgc tcttggtctt gagcgggtac  
300  
cctgggtcca ttttcacctg gaacaagcgg agtggcctgc aggtatcgca ggacttccct  
360  
ttcctccacc ccagtgcgac cagtgtcctg aatcgactct gccggtcgg cacagactat  
420  
attcgcttca ctgagttcat tgaacagtac acgggccatg tgcaacagca ggatcaccat  
480  
ccatctcaac agggccaagg tgggttacat ggaatctacc tgcgggcctt ctgcacaggg  
540  
ctggattctg ttttgcagcc ttatcgccaa gcactgcttg atttgaaca agagttcctg  
600  
ggtgatcccc atctctccat atcacatgtc aactacttcc tagaccagtt ccagcttctt  
660  
tttccctctg tgatggttgt agtagaacia attaaaagtc aaaagattca tgggtgtcaa  
720

atcctggaaa cagtctacaa acacagctgt ggggggttgc ctctgttcg aagtgcactg  
780  
gaaaaaatcc tggccgtttg tcatggggtc atgtataaac agctctcagc ctggatgctc  
840  
catggactcc tcttgacca gcatgaagaa ttctttatca aacaggggcc atcttctggt  
900  
aatgtcagtg ccagccaga agaggacgag gaggatctgg gcattggggg actgacagga  
960  
aaacaactga gagaactgca ggacttgccg ctgattgagg aagagaacat gctggcacca  
1020  
tctctgaagc agttttccct acgagtggag attttgccat cctacattcc agtgaggggt  
1080  
gctgaaaaaa tcctatttgt tggagaatct gtccagatgt ttgagaatca aaatgtgaac  
1140  
ctgactagaa aaggatccat ttgaaaaac caggaagaca cttttgctgc agagctgcac  
1200  
cgtctcaagc agcagccact cttcagcttg gtggactttg aacaggtggg ggatcgcat  
1260  
cgcagcactg tggctgagca tctctggaag ttgatggtag aagaatccga tttactgggt  
1320  
cagctgaaga tcattaaaga cttttacctt ctgggacgtg gagaactggt tcaggccttc  
1380  
attgacacag ctcaacacat gttgaaaaca ccaccactg cagtaactga gcatgatgtg  
1440  
aatgtggcct ttcaacagtc agcacacaag gtattgctag atgatgacaa ctttctccct  
1500  
ctgttgact tgacaatcga gtatcacnng gaaaggagca caaagatgct actcaggnc  
1560  
agagaagggc cttctcgga aatttctccc cggaagccc ctgcatctgg ctgggcagcc  
1620  
ctaggctctt cctacaaagt acagtggcca ctacatattc tttcacccc agctgtcctg  
1680  
gaaaagtaca atgttgttt taagtactta ctgagtgtgc gccgggtgca agctgagctg  
1740  
cagcactgct gggccctaca aatgcagcgc aagcacctca agtcgaacca gactgatgca  
1800  
atcaagtggc gcctaagaaa tcacatggca tttttggtg ataattctca gtactatctc  
1860  
caggtagatg tgttgagtc tcagttctcc cagctgcttc atcagatcaa ttctaccga  
1920  
gactttgaaa gcatccgatt ggctcatgac cacttctga gcaatttgct ggctcaatcc  
1980  
tttatcctat tgaaacctgt gtttactgc ctgaatgaaa tcctagatct ctgtcacagt  
2040  
ttttgttcg tggtcagtca gaacctaggc cactggatg agcgtggagc cgcccagctg  
2100  
agcattctcg tgaagggtt tagccgccag tcttactcc tgttcaagat tctctcagt  
2160  
gttcggaatc atcagatcaa ctgagattg gctcaactac tgttacgact agattataac  
2220  
aaatactata ccaggtctg tggaaactctg ggcagtttcg ggatgtgaaa atttctggct  
2280  
cataaattga aataacagcc acgttcccaa ggttgtaaca gaagattcaa aacatcccat  
2340



tctagccaca cacaataaaa tatctgcggc ttagtgatag gactctacct ttctcctag  
 2400  
 aagcagttac tgaacatcca ggagtacaac tccttcccat cattcccatg tggaagggtc  
 2460  
 tctcccatca aggagaacat gtggcatctc tgatccttta cattgagaac atttggtgga  
 2520  
 tatgttcatt tattcaatag tcatttattg agcacctact acgtaccttg gtactgttca  
 2580  
 agctgtggga gatacagcgg taaacaaaca atatagagca gaaagttaaa tattttatgg  
 2640  
 ttcatatgtg aaaaagtaat tatgttta  
 2668

<210> 3978

<211> 667

<212> PRT

<213> Homo sapiens

<400> 3978

Met	Ile	His	Glu	Leu	Leu	Leu	Ala	Leu	Ser	Gly	Tyr	Pro	Gly	Ser	Ile
1				5					10					15	
Phe	Thr	Trp	Asn	Lys	Arg	Ser	Gly	Leu	Gln	Val	Ser	Gln	Asp	Phe	Pro
			20					25					30		
Phe	Leu	His	Pro	Ser	Glu	Thr	Ser	Val	Leu	Asn	Arg	Leu	Cys	Arg	Leu
		35					40					45			
Gly	Thr	Asp	Tyr	Ile	Arg	Phe	Thr	Glu	Phe	Ile	Glu	Gln	Tyr	Thr	Gly
	50					55				60					
His	Val	Gln	Gln	Gln	Asp	His	His	Pro	Ser	Gln	Gln	Gly	Gln	Gly	Gly
65					70					75				80	
Leu	His	Gly	Ile	Tyr	Leu	Arg	Ala	Phe	Cys	Thr	Gly	Leu	Asp	Ser	Val
			85					90						95	
Leu	Gln	Pro	Tyr	Arg	Gln	Ala	Leu	Leu	Asp	Leu	Glu	Gln	Glu	Phe	Leu
		100						105					110		
Gly	Asp	Pro	His	Leu	Ser	Ile	Ser	His	Val	Asn	Tyr	Phe	Leu	Asp	Gln
		115					120					125			
Phe	Gln	Leu	Leu	Phe	Pro	Ser	Val	Met	Val	Val	Val	Glu	Gln	Ile	Lys
	130					135					140				
Ser	Gln	Lys	Ile	His	Gly	Cys	Gln	Ile	Leu	Glu	Thr	Val	Tyr	Lys	His
145					150					155				160	
Ser	Cys	Gly	Gly	Leu	Pro	Pro	Val	Arg	Ser	Ala	Leu	Glu	Lys	Ile	Leu
			165					170						175	
Ala	Val	Cys	His	Gly	Val	Met	Tyr	Lys	Gln	Leu	Ser	Ala	Trp	Met	Leu
		180						185					190		
His	Gly	Leu	Leu	Leu	Asp	Gln	His	Glu	Glu	Phe	Phe	Ile	Lys	Gln	Gly
	195					200						205			
Pro	Ser	Ser	Gly	Asn	Val	Ser	Ala	Gln	Pro	Glu	Glu	Asp	Glu	Glu	Asp
	210					215						220			
Leu	Gly	Ile	Gly	Gly	Leu	Thr	Gly	Lys	Gln	Leu	Arg	Glu	Leu	Gln	Asp
225					230					235				240	
Leu	Arg	Leu	Ile	Glu	Glu	Glu	Asn	Met	Leu	Ala	Pro	Ser	Leu	Lys	Gln
			245					250						255	
Phe	Ser	Leu	Arg	Val	Glu	Ile	Leu	Pro	Ser	Tyr	Ile	Pro	Val	Arg	Val
		260						265					270		
Ala	Glu	Lys	Ile	Leu	Phe	Val	Gly	Glu	Ser	Val	Gln	Met	Phe	Glu	Asn

275	280	285
Gln Asn Val Asn Leu Thr Arg Lys Gly Ser Ile Leu Lys Asn Gln Glu		
290	295	300
Asp Thr Phe Ala Ala Glu Leu His Arg Leu Lys Gln Gln Pro Leu Phe		
305	310	315
Ser Leu Val Asp Phe Glu Gln Val Val Asp Arg Ile Arg Ser Thr Val		
325	330	335
Ala Glu His Leu Trp Lys Leu Met Val Glu Glu Ser Asp Leu Leu Gly		
340	345	350
Gln Leu Lys Ile Ile Lys Asp Phe Tyr Leu Leu Gly Arg Gly Glu Leu		
355	360	365
Phe Gln Ala Phe Ile Asp Thr Ala Gln His Met Leu Lys Thr Pro Pro		
370	375	380
Thr Ala Val Thr Glu His Asp Val Asn Val Ala Phe Gln Gln Ser Ala		
385	390	395
His Lys Val Leu Leu Asp Asp Asp Asn Leu Leu Pro Leu Leu His Leu		
405	410	415
Thr Ile Glu Tyr His Xaa Glu Arg Ser Thr Lys Met Leu Leu Arg Xaa		
420	425	430
Arg Glu Gly Pro Ser Arg Glu Thr Ser Pro Arg Glu Ala Pro Ala Ser		
435	440	445
Gly Trp Ala Ala Leu Gly Leu Ser Tyr Lys Val Gln Trp Pro Leu His		
450	455	460
Ile Leu Phe Thr Pro Ala Val Leu Glu Lys Tyr Asn Val Val Phe Lys		
465	470	475
Tyr Leu Leu Ser Val Arg Arg Val Gln Ala Glu Leu Gln His Cys Trp		
485	490	495
Ala Leu Gln Met Gln Arg Lys His Leu Lys Ser Asn Gln Thr Asp Ala		
500	505	510
Ile Lys Trp Arg Leu Arg Asn His Met Ala Phe Leu Val Asp Asn Leu		
515	520	525
Gln Tyr Tyr Leu Gln Val Asp Val Leu Glu Ser Gln Phe Ser Gln Leu		
530	535	540
Leu His Gln Ile Asn Ser Thr Arg Asp Phe Glu Ser Ile Arg Leu Ala		
545	550	555
His Asp His Phe Leu Ser Asn Leu Leu Ala Gln Ser Phe Ile Leu Leu		
565	570	575
Lys Pro Val Phe His Cys Leu Asn Glu Ile Leu Asp Leu Cys His Ser		
580	585	590
Phe Cys Ser Leu Val Ser Gln Asn Leu Gly Pro Leu Asp Glu Arg Gly		
595	600	605
Ala Ala Gln Leu Ser Ile Leu Val Lys Gly Phe Ser Arg Gln Ser Ser		
610	615	620
Leu Leu Phe Lys Ile Leu Ser Ser Val Arg Asn His Gln Ile Asn Ser		
625	630	635
Asp Leu Ala Gln Leu Leu Arg Leu Asp Tyr Asn Lys Tyr Tyr Thr		
645	650	655
Gln Ala Gly Gly Thr Leu Gly Ser Phe Gly Met		
660	665	

&lt;210&gt; 3979

&lt;211&gt; 2746

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<400> 3979  
ccggcgctgc ttaccgctgt ggcggcaccg ggggtcccggg ggtgcgagca gcagggtggcg  
60  
caggcgggtga cgagctgctc aggtgcgagt ggcgggggca caggggtggg caggggccgg  
120  
gtcagaggtg tccgggtcag aggacgcgtg cgataatctg cgtgcattcg tcgataactg  
180  
tctatgcgaa gcaccgacgc agccatgagt acctgcgggg cttcactctg tgccacaacg  
240  
agcgaaccgc tgtacaggag ctgcactagc tgtgcaccg tctgcacagg caccaccgaa  
300  
ggccatccct gggaacaga atgcaaccgc ggatctagag agctgtcaca ttccaagaaa  
360  
tatttaaatt gtgctgattt tcttctggag aactgagccc agggaatgaa actctccatc  
420  
aagtcattggc tttgcgggca atagatcaga ggatattgcc agttttctaa tggattattg  
480  
ttatcgggca ggttttctct gaagcttctc agctgctgtt acattctact tggatgggaa  
540  
ctggagatca gccagatcac ttgtatgcac aaagctgccg tggatctgtc tttcaaacia  
600  
gagctgcaga aaacgctata gcaagggtga agctttatcc actctgactc acccagaaag  
660  
cacagccctg attctgcgtg agaaaggcta tctctacaga aactaaaacg gtatcaacgg  
720  
tttctgtaca gcacagatta tgacagcgtc tttcttaaga agagaatgtt taaatttcat  
780  
caaatgaaac atatttttga aatacttgat aaaatgagat gcctgagaaa acgttctaca  
840  
gtgtcattct tgggagttct tgtcattttt ctctttttta tgaacttgta cattgaagat  
900  
agctatgttc tggaaggaga caaacaactt ataagggaaa catccacaca tcaactgaat  
960  
tcagaacgct atgttcatac tttcaaggat ttatctaatt tctcaggagc cataaatgtc  
1020  
acctatcgct acctagctgc cacaccttta caaagaaagc ggatcttac aattggactt  
1080  
tcttcagtaa agcgaaaaaa aggaaactat ttacttgaga caattaagtc aatttttgag  
1140  
caatccagct atgaagagct gaaggaaatt tcagtgggtg ttcacctagc agactttaat  
1200  
tcttcctggc gtgatgccat ggtccaggat attacacaga aatttgcgca ccatattatt  
1260  
gcaggaagat taatggttat acatgctcca gaggagtatt acccaatcct agatggcctt  
1320  
aaaagaaatt acaatgatcc agaagataga gtcaaatttc gttccaagca aaatgtagat  
1380  
tatgttttct tgetttaattt ttgtgccaat acttcagact attatgtaat gcttgaagat  
1440  
gatgttcgat gttcaaaaaa tttcttaact gccatcaaga aagtcattgc atccctagaa  
1500  
ggaacttact gggtaactct tgaattctct aagcttggct acattggtaa actctatcat  
1560

tctcatgac tccacgttt ggcccathtt ttattaatgt tttatcaaga aatgccttgt  
 1620  
 gattggctat tgactcattt ccgtggctctg ttggctcaga aaaatgtgat ccgttttaaa  
 1680  
 ccatctctct ttcagcacat gggctattat tcatcataca aagggaacga gaataagctg  
 1740  
 aaggatgatg attttgaaga ggagtcattt gacattcctg ataaccccc tgcaagtctg  
 1800  
 tacaccaaca tgaatgtgtt tgaaaattat gaagcaagca aggcttacag tagtggtgat  
 1860  
 gagtactttt gggggaaacc accttcaaca ggagatgttt ttgtgattgt atttgaaaat  
 1920  
 ccaattataa taaaaaaaaat taaagtaaact actggaacag aagatcggca aaatgatatt  
 1980  
 ttgcatcatg gagccctaga tgttggggaa aacgttatgc ctagcaaaca aaggagacaa  
 2040  
 tgttctagtt acttaagact aggagaattc aaaaatggaa actttgaaat gtcaggtgta  
 2100  
 aatcaaaaaa ttccatttga tatacattgt atgaggatat atgtcaccaa aacacaaaag  
 2160  
 gaatggctaa ttattaggag tattagcatt tggacttctt agccaattaa atcagtatgt  
 2220  
 tcagtttctg aagcagttct tctgtcttcg tcttttgcta cctttgtctt ttggagggaa  
 2280  
 agcaatggat gggatatgtt aaaagaaaca ttaattacat tggcagtttt catttataca  
 2340  
 ttgttgacat aattttactc ttaatacaca ctgtatttta ttttaacgtc tgaagttgaa  
 2400  
 tatcagtcta tagctaattgc tactttcatt tatattttta aatgttctta gttttaaaat  
 2460  
 ttcaactgat tgtcgaaagg gtaatatgaa agattttaaa tgaaaaaaat ttgttggatg  
 2520  
 atgatttttg aaaaatagtc accaactgta tatacttcct caagaactga taattcatta  
 2580  
 tatcatcaga tagcttttat taagcatctg tgggaatata cagttgggtg gaatgataat  
 2640  
 ctggtttatt ttttctgtaa acttaagttt ccgttgactt ctgtacatct acaatgaata  
 2700  
 cctcctcata gaagtgggtg ctttacataa ttttttgtgt aggtga  
 2746

&lt;210&gt; 3980

&lt;211&gt; 478

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3980

Met	Phe	Lys	Phe	His	Gln	Met	Lys	His	Ile	Phe	Glu	Ile	Leu	Asp	Lys
1				5					10					15	
Met	Arg	Cys	Leu	Arg	Lys	Arg	Ser	Thr	Val	Ser	Phe	Leu	Gly	Val	Leu
			20					25					30		
Val	Ile	Phe	Leu	Leu	Phe	Met	Asn	Leu	Tyr	Ile	Glu	Asp	Ser	Tyr	Val
			35				40					45			
Leu	Glu	Gly	Asp	Lys	Gln	Leu	Ile	Arg	Glu	Thr	Ser	Thr	His	Gln	Leu

50	55	60
Asn Ser Glu Arg Tyr Val His Thr Phe Lys Asp Leu Ser Asn Phe Ser		
65	70	75
Gly Ala Ile Asn Val Thr Tyr Arg Tyr Leu Ala Ala Thr Pro Leu Gln		80
	85	90
Arg Lys Arg Tyr Leu Thr Ile Gly Leu Ser Ser Val Lys Arg Lys Lys		95
	100	105
Gly Asn Tyr Leu Leu Glu Thr Ile Lys Ser Ile Phe Glu Gln Ser Ser		110
	115	120
Tyr Glu Glu Leu Lys Glu Ile Ser Val Val Val His Leu Ala Asp Phe		125
	130	135
Asn Ser Ser Trp Arg Asp Ala Met Val Gln Asp Ile Thr Gln Lys Phe		140
145	150	155
Ala His His Ile Ile Ala Gly Arg Leu Met Val Ile His Ala Pro Glu		160
	165	170
Glu Tyr Tyr Pro Ile Leu Asp Gly Leu Lys Arg Asn Tyr Asn Asp Pro		175
	180	185
Glu Asp Arg Val Lys Phe Arg Ser Lys Gln Asn Val Asp Tyr Ala Phe		190
	195	200
Leu Leu Asn Phe Cys Ala Asn Thr Ser Asp Tyr Tyr Val Met Leu Glu		205
	210	215
Asp Asp Val Arg Cys Ser Lys Asn Phe Leu Thr Ala Ile Lys Lys Val		220
225	230	235
Ile Ala Ser Leu Glu Gly Thr Tyr Trp Val Thr Leu Glu Phe Ser Lys		240
	245	250
Leu Gly Tyr Ile Gly Lys Leu Tyr His Ser His Asp Leu Pro Arg Leu		255
	260	265
Ala His Phe Leu Leu Met Phe Tyr Gln Glu Met Pro Cys Asp Trp Leu		270
	275	280
Leu Thr His Phe Arg Gly Leu Leu Ala Gln Lys Asn Val Ile Arg Phe		285
	290	295
Lys Pro Ser Leu Phe Gln His Met Gly Tyr Tyr Ser Ser Tyr Lys Gly		300
305	310	315
Thr Glu Asn Lys Leu Lys Asp Asp Asp Phe Glu Glu Glu Ser Phe Asp		320
	325	330
Ile Pro Asp Asn Pro Pro Ala Ser Leu Tyr Thr Asn Met Asn Val Phe		335
	340	345
Glu Asn Tyr Glu Ala Ser Lys Ala Tyr Ser Ser Val Asp Glu Tyr Phe		350
	355	360
Trp Gly Lys Pro Pro Ser Thr Gly Asp Val Phe Val Ile Val Phe Glu		365
	370	375
Asn Pro Ile Ile Ile Lys Lys Ile Lys Val Asn Thr Gly Thr Glu Asp		380
385	390	395
Arg Gln Asn Asp Ile Leu His His Gly Ala Leu Asp Val Gly Glu Asn		400
	405	410
Val Met Pro Ser Lys Gln Arg Arg Gln Cys Ser Ser Tyr Leu Arg Leu		415
	420	425
Gly Glu Phe Lys Asn Gly Asn Phe Glu Met Ser Gly Val Asn Gln Lys		430
	435	440
Ile Pro Phe Asp Ile His Cys Met Arg Ile Tyr Val Thr Lys Thr Gln		445
	450	455
Lys Glu Trp Leu Ile Ile Arg Ser Ile Ser Ile Trp Thr Ser		460
465	470	475

&lt;210&gt; 3981

&lt;211&gt; 4447

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3981

nngccggccg tgtccaagga ggacgggatg cggggcctgg cggctctcat ctccgatatc  
60  
cggaactgta agagcaaaga ggcggaattt aagagaatca acaaggaact ggccaacatc  
120  
cgctccaagt tcaaaggaga caaggctttg gatggctaca gtaagaaaaa atatgtgtgt  
180  
aaactgcttt tcatcttcct gcttggatcat gacattgact ttgggcacat ggaggctgtg  
240  
aatctgttga gttccaataa atacacagag aagcaaatag gttacctgtt cttttctgtg  
300  
ctggtgaact cgaactcgga gctgatccgc ctgatcaaca acgccatcaa gaatgacctg  
360  
gccagccgca accccacctt catgggcctg gccctgcact gcacgcccag cgtgggcagc  
420  
cgggagatgg ccgaggcctt cgccggggag atccctaagg tctctgtagc cggagacact  
480  
atggacagcg tgaagcagag cgccggcctg tgcttgtctg gcctgtacag gacgtcccc  
540  
gatcttgtcc ccatgggcga ctggacatcc cgagtggctg acctgctcaa tgaccagcac  
600  
ttgggtgtgg taactgcagc cacaagtctg atcaccactt tagcacagaa gaaccagaa  
660  
gagtttaaaa cctccgtgtc tctggctgtc tctaggctaa gcagaatcgt gacgtctgca  
720  
tccacagatc tccaggatta cacttactat tttgtcccg ctccttggt gtctgtcaa  
780  
ctgctgagac tgctgcagtg ctaccacccc ccagaccctg cagtgcgagg ccgcctgact  
840  
gagtgcctgg agaccatcct gaacaaagcc caagaaccgc ccaagtcgaa gaaggtccag  
900  
cactccaacg cgaagaatgc cgtgcttttc gaggccatca gcttaatcat tcaccatgac  
960  
agtgagccga acctgctcgt ccgtgcctgc aaccagttgg gccagtttct gcagcacccg  
1020  
gagaccaacc tgcgctacct ggccctggag agcatgtgca cgctggccag ctccgagttc  
1080  
tcccataag ccgtcaagac gcacattgac accgtcatca atgccctcaa gacggagcgg  
1140  
gacgtcagcg tgcggcagcg ggccgctgac ctctctacg ccatgtgtga ccggagcaat  
1200  
gccaagcaga tcgtgtcgga gatgctgagc tatctggaga cagctgacta ctccatccga  
1260  
gaagagattg tgctgaaggt cgccatcctg gctgagaagt acgcggtgga ctacacctgg  
1320  
tatgtggata ccatcttgaa cttgatccga attgctggtg attacgtgag tgaagaggtg  
1380  
tggtaccgag tcattcagat cgtcatcaac cgggacgacg tgcagggcta cgcggccaag  
1440

accgtcttttg aggtctttca ggctcccgcg tgccacgaga acatggtcaa agtgggcggc  
1500  
tacatccttg gggagtttgg gaacctgatt gctggggacc cccgctccag cccccagtg  
1560  
cagttctccc tgctccactc caagttccat ctgtgcagcg tggccaccg cgcgctgctg  
1620  
ctgtccacct acatcaagtt cgtgaacctc ttcccgagg tgaagccac catccaggac  
1680  
gtgctgcgca gcgacagcca gctcaggaac gcagacgtgg agctgcagca gcgtgctgtg  
1740  
gagtacctgc ggctcagcac cgtggccagc accgacattc tggcgaccgt gctggaggag  
1800  
atgcccccat tcccgagcg ggagtcctcc atcttggcaa agctcaagaa gaagaagggc  
1860  
cccagcacgg tgacagacct ggaggacacc aagcgggaca ggagtgtgga cgtgaacggg  
1920  
ggtcctgagc ctgccccagc cagtaccagc gccgtgtcta cgcttctcc gtcggcagac  
1980  
ctgctgggtc tgggggctgc ccccttgcc cccgcgggcc cccaccctc ctccggcggc  
2040  
agcgggctgc tcgtggacgt gttctcagac tcggcctctg tggtcgcgcc tctcgctcct  
2100  
ggctccgaag acaactttgc caggtttgtt tgtaaaaaca atggtgtgtt gtttgaaaac  
2160  
cagctgcttc aaattggact taagtctgaa ttccggcaga atttaggtcg gatgtttatc  
2220  
ttttatggta ataagacctc cagcagttc ctaaacttta cccaacact aatctgttca  
2280  
gacgaccttc agcctaacct gaacctgcag accaagcccc tggacccgac cgtggagggg  
2340  
ggcgcgcagg tgcagcaggt ggtcaacata gagtgcgtgt ccgacttcac ggaggcgcca  
2400  
gtcctcaaca ttcagttcag gtatgggggc accttcaga acgtgtctgt gcagctgccc  
2460  
atcactctca acaaattctt ccagccgaca gaaatggctt ctccaggattt ctttcaacgt  
2520  
tggaagcagt tgagcaatcc acagcaggaa gtgcagaaca tcttcaaagc aaagcaccca  
2580  
atggacacag aagtcaccaa agccaagatc attggatttg gttctgcact tcttgaagaa  
2640  
gttgatccta atcctgcgaa ttctgtggga gctggaatca tccacacgaa aaccaccag  
2700  
attggatgcc tgctgcgctt ggagccgaac ctgcaagccc agatgtaccg gctcacgctg  
2760  
cgcacaagta aggaagccgt ttctcagaga ttatgtgaat tgctctcagc gcagttttag  
2820  
tcctgaggat ggaagaccag gctcgtgtgt cttgtgttgt cttcgtctgt gccgtttgtc  
2880  
ttcgtggcta tcctgcagat gagcacctg tccagtcca cagcacaagg cgctccccg  
2940  
ccccaccgcc ccacacctc cccctttggg ctggacggga acacacgtgt gtggctcagg  
3000  
aggaaaagct cagcctggac tgtggcagcc acggcagaag gtggatcttg ggatcaattt  
3060

ttataaaaat cgagacagtt ctgtgggttaa atctacaaat taaagggaaa ttagaagttg  
3120  
gcgtgaacgt ggcgtttgtg ggagtgtcac tgagatggcc cgtgctgccg cccaccccg  
3180  
ctcggagcct ctgggagcag cagtgccact gtgcatggcg tgggctgagc cttggtgtgt  
3240  
ggccgtcctg gtggctgcac acctggcgtc gtcctgggccc cttgggagga gcacagctga  
3300  
ccctggtttt gctgcagtcc cagctggact gttttcccag gcaggatttt aatctagaat  
3360  
ttagaaacat ttgtatttgt aatgacttct ggcaaaagca cgtgtcctgg ccggatgtaa  
3420  
ctgttctcct ttcccagctc ctgtttgtga agggcgtctg ttatgctcct gcagtcgccg  
3480  
aggccttggg tgtgcagcca ggggaggagc gtctgcccgg ccccgaggag cccccaggac  
3540  
tccagggtaa agtgtggggc ggtggcgcaa gactcagagg tgtgctcgtc tctttcctgt  
3600  
cagagtgggc gtccccaggc cacggtgcag gcctgagtcc ttccaccggc ccgctccagt  
3660  
cgtccctgga ggggctgtgg aggaaggacg cctctgtgtg gtcaggaagt gaaggggcca  
3720  
ttggccgcat gccatgtgcc acctgcccgt tgtgtctcac ctgtcatctg gactcagcac  
3780  
ccagctgca cgtctgacac ctgagaggcg agagagtggg gccggcctag gagccaaggc  
3840  
tggggccttg cgtctgtcc ccaggatggt ggccttgttt gtcctaaaca caccagcac  
3900  
aggttctggc ttcctgacat gctgtggagg caggaggagg ggggtggccac atgtgcttga  
3960  
gggttttcac cctggccctc agttgcctgc tgtgcgggtc cctggggcag ctgcaggggc  
4020  
tcatggaccc atcagggtct ccacagctcc cctgcagtgt gtgcaccca caatgtctgc  
4080  
ggctcttctt ccggcgtgtc gggctttgat cacagcatag ccacgtcagt ggcgtgcgcc  
4140  
tctcgcacag gccattctgg gtctgggtgt gccagggtgc gtgacacgcc gtgctgggct  
4200  
tgtgctgcag ctgggtggtg tggccctcat tctcatgttc cagctgctgg gcagtgtctt  
4260  
gcctgtgtgc tgccctgca ggctgcgtgt gctgccgtgg atctcctgca tcccttgacc  
4320  
cctcccgcc ttagaggaaa ggctgtccc cgaggcaccg cttccctgtg cggcgtgca  
4380  
gaggggccct cagtgtggca ctctcgtca aagaaaaata aaggctagaa ctgcaaaaaa  
4440  
aaaaaaa  
4447

&lt;210&gt; 3982

&lt;211&gt; 929

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens



&lt;400&gt; 3982

Arg Gly Leu Ala Val Phe Ile Ser Asp Ile Arg Asn Cys Lys Ser Lys  
 1 5 10 15  
 Glu Ala Glu Ile Lys Arg Ile Asn Lys Glu Leu Ala Asn Ile Arg Ser  
 20 25 30  
 Lys Phe Lys Gly Asp Lys Ala Leu Asp Gly Tyr Ser Lys Lys Tyr  
 35 40 45  
 Val Cys Lys Leu Leu Phe Ile Phe Leu Leu Gly His Asp Ile Asp Phe  
 50 55 60  
 Gly His Met Glu Ala Val Asn Leu Leu Ser Ser Asn Lys Tyr Thr Glu  
 65 70 75 80  
 Lys Gln Ile Gly Tyr Leu Phe Ile Ser Val Leu Val Asn Ser Asn Ser  
 85 90 95  
 Glu Leu Ile Arg Leu Ile Asn Asn Ala Ile Lys Asn Asp Leu Ala Ser  
 100 105 110  
 Arg Asn Pro Thr Phe Met Gly Leu Ala Leu His Cys Ile Ala Ser Val  
 115 120 125  
 Gly Ser Arg Glu Met Ala Glu Ala Phe Ala Gly Glu Ile Pro Lys Val  
 130 135 140  
 Leu Val Ala Gly Asp Thr Met Asp Ser Val Lys Gln Ser Ala Ala Leu  
 145 150 155 160  
 Cys Leu Leu Arg Leu Tyr Arg Thr Ser Pro Asp Leu Val Pro Met Gly  
 165 170 175  
 Asp Trp Thr Ser Arg Val Val His Leu Leu Asn Asp Gln His Leu Gly  
 180 185 190  
 Val Val Thr Ala Ala Thr Ser Leu Ile Thr Thr Leu Ala Gln Lys Asn  
 195 200 205  
 Pro Glu Glu Phe Lys Thr Ser Val Ser Leu Ala Val Ser Arg Leu Ser  
 210 215 220  
 Arg Ile Val Thr Ser Ala Ser Thr Asp Leu Gln Asp Tyr Thr Tyr Tyr  
 225 230 235 240  
 Phe Val Pro Ala Pro Trp Leu Ser Val Lys Leu Leu Arg Leu Leu Gln  
 245 250 255  
 Cys Tyr Pro Pro Pro Asp Pro Ala Val Arg Gly Arg Leu Thr Glu Cys  
 260 265 270  
 Leu Glu Thr Ile Leu Asn Lys Ala Gln Glu Pro Pro Lys Ser Lys Lys  
 275 280 285  
 Val Gln His Ser Asn Ala Lys Asn Ala Val Leu Phe Glu Ala Ile Ser  
 290 295 300  
 Leu Ile Ile His His Asp Ser Glu Pro Asn Leu Leu Val Arg Ala Cys  
 305 310 315 320  
 Asn Gln Leu Gly Gln Phe Leu Gln His Arg Glu Thr Asn Leu Arg Tyr  
 325 330 335  
 Leu Ala Leu Glu Ser Met Cys Thr Leu Ala Ser Ser Glu Phe Ser His  
 340 345 350  
 Glu Ala Val Lys Thr His Ile Asp Thr Val Ile Asn Ala Leu Lys Thr  
 355 360 365  
 Glu Arg Asp Val Ser Val Arg Gln Arg Ala Ala Asp Leu Leu Tyr Ala  
 370 375 380  
 Met Cys Asp Arg Ser Asn Ala Lys Gln Ile Val Ser Glu Met Leu Ser  
 385 390 395 400  
 Tyr Leu Glu Thr Ala Asp Tyr Ser Ile Arg Glu Glu Ile Val Leu Lys  
 405 410 415  
 Val Ala Ile Leu Ala Glu Lys Tyr Ala Val Asp Tyr Thr Trp Tyr Val

```

      420      425      430
Asp Thr Ile Leu Asn Leu Ile Arg Ile Ala Gly Asp Tyr Val Ser Glu
      435      440      445
Glu Val Trp Tyr Arg Val Ile Gln Ile Val Ile Asn Arg Asp Asp Val
      450      455      460
Gln Gly Tyr Ala Ala Lys Thr Val Phe Glu Ala Leu Gln Ala Pro Ala
465      470      475      480
Cys His Glu Asn Met Val Lys Val Gly Gly Tyr Ile Leu Gly Glu Phe
      485      490      495
Gly Asn Leu Ile Ala Gly Asp Pro Arg Ser Ser Pro Pro Val Gln Phe
      500      505      510
Ser Leu Leu His Ser Lys Phe His Leu Cys Ser Val Ala Thr Arg Ala
      515      520      525
Leu Leu Leu Ser Thr Tyr Ile Lys Phe Val Asn Leu Phe Pro Glu Val
      530      535      540
Lys Pro Thr Ile Gln Asp Val Leu Arg Ser Asp Ser Gln Leu Arg Asn
545      550      555      560
Ala Asp Val Glu Leu Gln Gln Arg Ala Val Glu Tyr Leu Arg Leu Ser
      565      570      575
Thr Val Ala Ser Thr Asp Ile Leu Ala Thr Val Leu Glu Glu Met Pro
      580      585      590
Pro Phe Pro Glu Arg Glu Ser Ser Ile Leu Ala Lys Leu Lys Lys Lys
      595      600      605
Lys Gly Pro Ser Thr Val Thr Asp Leu Glu Asp Thr Lys Arg Asp Arg
      610      615      620
Ser Val Asp Val Asn Gly Gly Pro Glu Pro Ala Pro Ala Ser Thr Ser
625      630      635      640
Ala Val Ser Thr Pro Ser Pro Ser Ala Asp Leu Leu Gly Leu Gly Ala
      645      650      655
Ala Pro Pro Ala Pro Ala Gly Pro Pro Pro Ser Ser Gly Gly Ser Gly
      660      665      670
Leu Leu Val Asp Val Phe Ser Asp Ser Ala Ser Val Val Ala Pro Leu
      675      680      685
Ala Pro Gly Ser Glu Asp Asn Phe Ala Arg Phe Val Cys Lys Asn Asn
      690      695      700
Gly Val Leu Phe Glu Asn Gln Leu Leu Gln Ile Gly Leu Lys Ser Glu
705      710      715      720
Phe Arg Gln Asn Leu Gly Arg Met Phe Ile Phe Tyr Gly Asn Lys Thr
      725      730      735
Ser Thr Gln Phe Leu Asn Phe Thr Pro Thr Leu Ile Cys Ser Asp Asp
      740      745      750
Leu Gln Pro Asn Leu Asn Leu Gln Thr Lys Pro Val Asp Pro Thr Val
      755      760      765
Glu Gly Gly Ala Gln Val Gln Gln Val Val Asn Ile Glu Cys Val Ser
      770      775      780
Asp Phe Thr Glu Ala Pro Val Leu Asn Ile Gln Phe Arg Tyr Gly Gly
785      790      795      800
Thr Phe Gln Asn Val Ser Val Gln Leu Pro Ile Thr Leu Asn Lys Phe
      805      810      815
Phe Gln Pro Thr Glu Met Ala Ser Gln Asp Phe Phe Gln Arg Trp Lys
      820      825      830
Gln Leu Ser Asn Pro Gln Gln Glu Val Gln Asn Ile Phe Lys Ala Lys
      835      840      845
His Pro Met Asp Thr Glu Val Thr Lys Ala Lys Ile Ile Gly Phe Gly

```

850	855	860
Ser Ala Leu Leu Glu Glu Val Asp Pro Asn Pro Ala Asn Phe Val Gly		
865	870	875
Ala Gly Ile Ile His Thr Lys Thr Thr Gln Ile Gly Cys Leu Leu Arg		880
	885	890
Leu Glu Pro Asn Leu Gln Ala Gln Met Tyr Arg Leu Thr Leu Arg Thr		895
	900	905
Ser Lys Glu Ala Val Ser Gln Arg Leu Cys Glu Leu Leu Ser Ala Gln		910
	915	920
		925
Phe		

&lt;210&gt; 3983

&lt;211&gt; 2300

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3983

```

nnccatgggg agatcacaga agagaggggac atcctgagcc ggcaacaggg agaccatgtg
60
gcacgcatcc tggagctaga ggatgacatc cagaccatca gtgagaaagt gctgacgaag
120
gaagtggagc tggacaggct tagagacaca gtgaaggccc tgactcggga acaagagaag
180
ctccttgggc aactgaaaga agtacaagca gacaaggagc aaagtgaggc tgagctccaa
240
gtggcacaac aggagaacca tcacttaaat ttggacctga aggaggcgaa gagctggcaa
300
gaggagcaga gtgctcaggc tcagcgactg aaagacaagg tggcccagat gaaggacacc
360
ctaggccagg cccagcagcg ggtggccgag ctggagccct tgaaggagca gcttcgaggg
420
gccaggagc ttgcagcctc aagccagcag aaagccaccc ttcttgggga ggagttggcc
480
agcgagcag cagccaggga ccgcaccata gccgaactac accgcagccg cctggaagtg
540
gctgaagtta acggcaggct ggctgagctc ggtttgcact tgaaggaaga aaaatgccaa
600
tgagcaagg agcgggcagg gctgctgcag agtgaggagg cagagaagga caagatcctg
660
aagctgagtg cagagatact tcgattggag aaggcagttc aggaggagaa gacccaaaac
720
caagtgttca agactgagct ggcccgggag aaggattcta gcctggtaca gttgtcagaa
780
agtaagcggg agctgacaga gctgcggtca gccctgcgtg tgctccagaa ggaaaaggag
840
cagttacagg aggagaaaca ggaattgcta gagtacatga gaaagctaga ggcccgcctg
900
gagaaggtgg cagatgagaa gtggaatgag gatgccacca cagaggatga ggaggccgct
960
gtggggctga gctgcccggc agctctgaca gactcagagg acgagtcctcc agaagacatg
1020
aggctccac cctatggcct ttgtgagcgt ggagaccag gctcctctcc tgctgggcct
1080

```

cgagaggctt ctccccttgt tgtcatcagc cagccggctc ccatttctcc tcacctctct  
 1140  
 gggccagctg aggacagtag ctctgactcg gaggctgaag atgagaagtc agtcctgatg  
 1200  
 gcagctgtgc agagtggggg tgaggaggcc aacttactgc ttcctgaact gggcagtgcc  
 1260  
 ttctatgaca tggccagtgg ctttacagtg ggtaccctgt cagaaaccag cactgggggc  
 1320  
 cctgccaccc ccacatggaa ggagtgtcct atctgtaagg agcgctttcc tgetgagagt  
 1380  
 gacaaggatg ccctggagga ccacatggat ggacacttct ttttcagcac ccaggacccc  
 1440  
 ttcacctttg agtgatctta ctccctcgta catgcacaaa tacacactca tgcacacaca  
 1500  
 cactcacaca catgcataca cttaggtttc atgcccattt tctatcacac tgggctccat  
 1560  
 gatattctgt tcctaagaa ctgcttctgt gtgccctgtt ttcattccaa gatttctcac  
 1620  
 ttcacctctt cctacctggc tcttttctcc caggaggagg tctgttctcg aagcagtggc  
 1680  
 tgaatttatc ccctgaaagt ggttttggag gaaccgggat ggaggaggcc tccccctgtg  
 1740  
 ggaatagaat cgtccactcc tagccctggg tgcttctgat acacagccac tgcacacaca  
 1800  
 cactcacact cacactccct tgtctgatgc cccaaagcca attcctgggg caccctaccc  
 1860  
 tctcttattt ggagtttccg ttggtttacc tgagttttct ctgggggtctg cacagaggca  
 1920  
 gcagcatgga catcatggcc tctcagggtc cttttgggtc tcagtttcat tggttcctct  
 1980  
 ttctgttccc ccattgactt ctgtgcccga ccctagcett ttccataacc ttaggtattc  
 2040  
 agtttggagg ggttttttgt atttttgagg attcctgtat tctgtatcct ctccctcgat  
 2100  
 ctctcacat ggaaagaaat aatgtatttg tgccttctgt gaggaatggg gggaacaagt  
 2160  
 ggtcccagg atccccattt ccaaggcccc cctccctctc cagggtcccc cacagcaata  
 2220  
 aaagcttccc cctgatatcc atccctttgt agtttgaaca aatatattta tatgatatgt  
 2280  
 aaaaaaaaaa aaaaaaaaaa  
 2300

&lt;210&gt; 3984

&lt;211&gt; 484

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3984

Xaa His Gly Glu Ile Thr Glu Glu Arg Asp Ile Leu Ser Arg Gln Gln  
 1 5 10 15  
 Gly Asp His Val Ala Arg Ile Leu Glu Leu Glu Asp Asp Ile Gln Thr  
 20 25 30  
 Ile Ser Glu Lys Val Leu Thr Lys Glu Val Glu Leu Asp Arg Leu Arg

```

      35              40              45
Asp Thr Val Lys Ala Leu Thr Arg Glu Gln Glu Lys Leu Leu Gly Gln
  50              55              60
Leu Lys Glu Val Gln Ala Asp Lys Glu Gln Ser Glu Ala Glu Leu Gln
  65              70              75              80
Val Ala Gln Gln Glu Asn His His Leu Asn Leu Asp Leu Lys Glu Ala
      85              90              95
Lys Ser Trp Gln Glu Glu Gln Ser Ala Gln Ala Gln Arg Leu Lys Asp
      100              105              110
Lys Val Ala Gln Met Lys Asp Thr Leu Gly Gln Ala Gln Gln Arg Val
      115              120              125
Ala Glu Leu Glu Pro Leu Lys Glu Gln Leu Arg Gly Ala Gln Glu Leu
      130              135              140
Ala Ala Ser Ser Gln Gln Lys Lys Ala Thr Leu Leu Gly Glu Glu Leu Ala
      145              150              155              160
Ser Ala Ala Ala Ala Arg Asp Arg Thr Ile Ala Glu Leu His Arg Ser
      165              170              175
Arg Leu Glu Val Ala Glu Val Asn Gly Arg Leu Ala Glu Leu Gly Leu
      180              185              190
His Leu Lys Glu Glu Lys Cys Gln Trp Ser Lys Glu Arg Ala Gly Leu
      195              200              205
Leu Gln Ser Val Glu Ala Glu Lys Asp Lys Ile Leu Lys Leu Ser Ala
      210              215              220
Glu Ile Leu Arg Leu Glu Lys Ala Val Gln Glu Glu Lys Thr Gln Asn
      225              230              235              240
Gln Val Phe Lys Thr Glu Leu Ala Arg Glu Lys Asp Ser Ser Leu Val
      245              250              255
Gln Leu Ser Glu Ser Lys Arg Glu Leu Thr Glu Leu Arg Ser Ala Leu
      260              265              270
Arg Val Leu Gln Lys Glu Lys Glu Gln Leu Gln Glu Glu Lys Gln Glu
      275              280              285
Leu Leu Glu Tyr Met Arg Lys Leu Glu Ala Arg Leu Glu Lys Val Ala
      290              295              300
Asp Glu Lys Trp Asn Glu Asp Ala Thr Thr Glu Asp Glu Glu Ala Ala
      305              310              315              320
Val Gly Leu Ser Cys Pro Ala Ala Leu Thr Asp Ser Glu Asp Glu Ser
      325              330              335
Pro Glu Asp Met Arg Leu Pro Pro Tyr Gly Leu Cys Glu Arg Gly Asp
      340              345              350
Pro Gly Ser Ser Pro Ala Gly Pro Arg Glu Ala Ser Pro Leu Val Val
      355              360              365
Ile Ser Gln Pro Ala Pro Ile Ser Pro His Leu Ser Gly Pro Ala Glu
      370              375              380
Asp Ser Ser Ser Asp Ser Glu Ala Glu Asp Glu Lys Ser Val Leu Met
      385              390              395              400
Ala Ala Val Gln Ser Gly Gly Glu Glu Ala Asn Leu Leu Leu Pro Glu
      405              410              415
Leu Gly Ser Ala Phe Tyr Asp Met Ala Ser Gly Phe Thr Val Gly Thr
      420              425              430
Leu Ser Glu Thr Ser Thr Gly Gly Pro Ala Thr Pro Thr Trp Lys Glu
      435              440              445
Cys Pro Ile Cys Lys Glu Arg Phe Pro Ala Glu Ser Asp Lys Asp Ala
      450              455              460
Leu Glu Asp His Met Asp Gly His Phe Phe Phe Ser Thr Gln Asp Pro

```

465                      470                      475                      480  
Phe Thr Phe Glu

```
<210> 3985
<211> 523
<212> DNA
<213> Homo sapiens
```

```

<400> 3985
nnaaatttgt cttcgtgtag tttaacaaca cttctacaac tgcttggttc aggtactgac
60
gactgatgat gtcattcacc tggactttca acataaatac agacaaagat ctggtcgttt
120
aaaagcggca cctcccactc tctctctctc ggtccttctt tctctgtgtg atgagcctgc
180
tcctcttttg ccttctacta tgactggaag ctccctgagg cctcctcaga agcagatgct
240
gctatatattc ctgtacagcc tggaaaccgtc aagggtggagg ttgccccagg cacctctgtc
300
ctctcctcct cagcctcttc cagctgcttt tgctgttggt gttgttggtg ctgctgctgc
360
tgctgctgct gttggatgag gctgaggtcg gagcggctga gttccgctct ggcggccgcg
420
gggaccagcc gcgctttcag cagccccacg gccaggccga gaagcagggt gcaggggaca
480
cgccggcaga gcctcgccat ggcctagagc cagagggccg cgg
523

```

```
<210> 3986
<211> 110
<212> PRT
<213> Homo sapiens
```

```

<400> 3986
Ala Cys Ser Leu Phe Ala Phe Tyr Tyr Asp Trp Lys Leu Pro Glu Ala
 1             5             10             15
Ser Ser Glu Ala Asp Ala Ala Ile Phe Pro Val Gln Pro Gly Thr Val
      20             25             30
Lys Val Glu Val Ala Pro Gly Thr Ser Val Leu Ser Ser Ser Ala Ser
      35             40             45
Ser Ser Cys Phe Cys Cys Cys Cys Cys Cys Cys Cys Cys Cys Cys Cys
      50             55             60
Cys Cys Trp Met Arg Leu Arg Ser Glu Arg Leu Ser Ser Ala Leu Ala
65             70             75             80
Ala Ala Gly Thr Ser Arg Ala Phe Ser Ser Pro Thr Ala Arg Pro Arg
      85             90             95
Ser Arg Val Gln Gly Thr Arg Arg Gln Ser Leu Ala Met Ala
      100             105             110

```

```
<210> 3987
<211> 5954
<212> DNA
<213> Homo sapiens
```

&lt;400&gt; 3987

tattagcagt aattgatttg ccctgtatta ttttctgat gaataatcct ttacctcaag  
60  
cataattggt ttcagccaaa atctagacag tatagtagtt cagagatagt aataagaatt  
120  
cagaattagg ttgccaccac taaattcact ctacttttta taaaaaaacc tttaaagat  
180  
atcttaggaa attaaaggggt tttttcttcc atttcttttt ttctttcttt cttttaaggt  
240  
tttttcccc ctttaactga aatgtggaat aaacatattt gtaaatttta cttatttttag  
300  
gatggcagta taacacatca gatttctagg cctaatactc caaatttttg tccaggcttt  
360  
gtcaatgatt cacagcgtaa gcagtatgaa gagtggctcc aggagacca acagctgctt  
420  
caaatgcagc agaagtatct tgaagaaca attggtgctc acagaaaatc taagaaggcc  
480  
ctttcagcta aacaacgtac tgccaagaaa gctgggctg aatttccaga ggaagatgca  
540  
gaacaactca agcatgttac tgaacagcaa agcatggctc agaaacagct agaacagatt  
600  
cgtaaacaac agaaagaaca tgctgaattg attgaagatt atcggatcaa acagcagcag  
660  
caatgtgcaa tggccccacc taccatgatg cccagtgtcc agccccagcc acccctaatt  
720  
ccaggtgcca ctccaccac catgagcaa cccaccttc ccatggtgcc acagcagctt  
780  
cagcaccagc agcacacaac agttatttct ggccatacta gccctgttag aatgcccagt  
840  
ttacctggat ggcaacccaa eagtgctcct gccacctgc cctcaatcc tcctagaatt  
900  
cagcccccaa ttgccagtt accaataaaa acttgtacac cagccccagg gacagtctca  
960  
aatgcaaadc cacagagtgg accaccacct cgggtagaat ttgatgaca caatcccttt  
1020  
agtgaaggtt ttcaagaacg ggaacgtaag gaacgtttac gagaacagca agagagacaa  
1080  
cggatccaac tcatgcagga ggtagataga caaagagctt tgcagcagag gatggaaatg  
1140  
gagcagcatg gtatggtggg ctctgagata agtagtagta ggacatctgt gtcccagatt  
1200  
cccttctaca gttccgactt accttgtgat tttatgcaac ctctaggacc cttcagcag  
1260  
tctccacaac accaacagca aatggggcag gttttacagc agcagaatat acaacaagga  
1320  
tcaattaatt cacctccac ccaaacttct atgcagacta atgagcgaag gcaggtaggc  
1380  
cctcctcat ttgttctga ttcaccatca atccctgttg gaagcccaa ttttcttct  
1440  
gtgaagcagg gacatggaaa tctttctggg accagcttcc agcagtcacc agtgaggcct  
1500  
tcttttacac ctgctttacc agcagcacct ccagtagcta atagcagctt cccatgtggc  
1560

caagattcta ctataacca tggacacagt tatccgggat caaccaatc gtcattcag  
1620  
ttgtattctg atataatccc agaggaaaaa aaaaaaaaaa aaagaacaag aaagaagaaa  
1680  
agagatgatg atgcagaatc caccaaggct ccatcaactc cccattcaga tataactgcc  
1740  
ccaccgactc caggcatctc agaaactacc tctactcctg cagtgagcac acccagtgag  
1800  
cttcctcaac aagccgacca agagtccgtg gaaccagtcg gcccatccac tcccaatatg  
1860  
gcagcaggcc agctatgtac agaattagag aacaaactgc ccaatagtga tttctcaca  
1920  
gcaactccaa atcaacagac gtatgcaaat tcagaagtag acaagctctc catggaaacc  
1980  
cctgccaaaa cagaagagat aaaactggaa aaggctgaga cagagtcctg cccaggccaa  
2040  
gaggagccta aattggagga acagaatggt agtaaggtag aaggaaacgc tgtagcctgt  
2100  
cctgtctcct cagcacagag tcctcccat tctgctgggg cccctgctgc caaaggagac  
2160  
tcagggaatg aacttctgaa acacttggtg aaaaataaaa agtcattctc tcttttgaat  
2220  
caaaaacctg agggcagtat ttgttcagaa gatgactgta caaaggataa taaactagtt  
2280  
gagaagcaga acccagctga aggactgcaa actttggggg ctcaaatgca aggtggtttt  
2340  
ggatgtggca accagttgcc aaaaacagat ggaggaagtg aaaccaagaa acagcgaagc  
2400  
aaacggactc agaggacggg tgagaaagca gcacctcgct caaagaaaag gaaaaaggac  
2460  
gaagaggaga aacaagctat gtactctagc actgacagct ttaccactt gaaacagggtg  
2520  
aggcagctct ctctgctccc tctaatggaa ccaatcattg gagtgaactt tgcgcacttt  
2580  
cttccttatg gcagtggcca atttaatagt gggaatcgac ttctaggaac ttttggcagt  
2640  
gctaccctgg aaggggtttc ggactactat tctcagttga tctacaagca gaataattta  
2700  
agtaatctc caacaccccc tgctctctt cctctacac cacctcctat ggcttgctag  
2760  
aagatggcca atggttttgc aacaactgaa gaacttgctg gaaaagccgg agtggttagtg  
2820  
agccatgaag ttaccâaaac tctaggacct aaaccatttc agctgccctt cagaccccag  
2880  
gacgacttgt tggcccagac tcttgctcag ggcccaaga cagttgatgt gccagcctcc  
2940  
ctcccaacac cacctcataa caatcaggaa gaattaagga tacaggatca ctgtggtgat  
3000  
cgagatactc ctgacagttt tgttccctca tcctctcctg agagtgtggt tggggtagaa  
3060  
gtgagcaggt atccagatct gtcattggtc aaggaggagc ctccagaacc ggtgccgtcc  
3120  
cccatcattc caattcttcc tagcactgct gggaaaagtt cagaatcaag aaggaatgac  
3180



atcaaaaactg agccaggcac tttatatattt gcgtcacctt ttggtccttc cccaaatggt  
3240  
cccagatcag gtcttatatc tgtagcaatt actctgcac ctacagctgc tgagaacatt  
3300  
agcagtgttg tggctgcatt ttccgacctt cttcacgtcc gaatccctaa cagctatgag  
3360  
gttagcagtg ctccagatgt cccatccatg ggtttgggtca gtagccacag aatcaaccg  
3420  
ggtttggagt atcgacagca tttacttctc cgtgggcctc cgccaggatc tgcaaaccct  
3480  
cccagattag tgagctctta ccggtgaag cagcctaag taccatttcc tccaacaagc  
3540  
aatggtcttt ctggatataa ggattctagt catgggtattg cagaaagcgc agcactcaga  
3600  
ccacagtggg gttgtcattg taaagtgggt attcttggaa gtgggtgtgcg gaaatctttc  
3660  
aaagatctga cccttttgaa caaggattcc cgagaaagca ccaagagggt agagaaggac  
3720  
attgtcttct gtagtaataa ctgctttatt ctttattcat caactgcaca agcgaaaaac  
3780  
tcagaaaaca aggaatccat tccttcattg ccacaatcac ctatgagaga aacgccttcc  
3840  
aaagcatttc atcagtacag caacaacatc tccactttgg atgtgcactg tctccccag  
3900  
ctcccagaga aagcttctcc ccctgcctca ccacccatcg ccttccctcc tgcttttgaa  
3960  
gcagcccaag tcgaggccaa gccagatgag ctgaagggtga cagtcaagct gaagcctcgg  
4020  
ctaagagctg tccatgggtg gtttgaagat tgcaggccgc tcaataaaaa atggagagga  
4080  
atgaaatgga agaagtggag cattcatatt gtaatcccta aggggacatt taaaccacct  
4140  
tgtgaggatg aaatagatga atttctaaag aaattgggca cttcccttaa acctgatcct  
4200  
gtgccccaaag actatcgga atgttgcttt tgtcatgaag aaggatgatg attgacagat  
4260  
ggaccagcaa ggctactcaa ccttgacttg gatctgtggg tccacttgaa ctgcgctctg  
4320  
tgggtccacgg aggtctatga gactcaggct ggtgccttaa taaatgtgga gctagctctg  
4380  
aggagaggcc tacaatgaa atgtgtcttc tgtcacaaga cgggtgccac tagtgatgc  
4440  
cacagatttc gatgcaccaa catattatcac ttcacttgcg ccattaaagc acaatgcatg  
4500  
ttttttaagg acaaaactat gctttgcccc atgcacaaac caaagggaat tcatgagcaa  
4560  
gaattaagtt actttgcagt cttcaggagg gtctatgttc agcgtgatga ggtgcgacag  
4620  
attgctagca tcgtgcaacg aggagaacgg gaccatacct ttcgctggg tagcctcatc  
4680  
ttccacacaa ttggtcagct gcttcacag cagatgcaag cattccattc tctaaagca  
4740  
ctcttccctg tgggctatga agccagccgg ctgtactgga gcactcgcta tgccaatagg  
4800

cgctgccgct acctgtgtc cattgaggag aaggatgggc gcccagtgtt tgtcatcagg  
 4860  
 attgtggaac aaggccatga agacctgggt ctaagtgaca tctcacctaa aggtgtctgg  
 4920  
 gataagattt tggagcctgt ggcatgtgtg agaaaaaagt ctgaaatgct ccagcttttc  
 4980  
 ccagcgtatt taaaaggaga ggatctgttt ggctgaccg tctctgcagt ggcacgcata  
 5040  
 gcggaatcac ttcctggggg tgaggcatgt gaaaattata ccttccgata cggccgaaat  
 5100  
 cctctcatgg aacttctct tgcctttaac cccacagggt gtgcccggtc tgaacctaaa  
 5160  
 atgagtcccc atgtcaagag gtttgtgtta aggcctcaca ccttaaacag caccagcacc  
 5220  
 tcaaagtcac ttcagagcac agtcactgga gaactgaacg caccttatag taaacagttt  
 5280  
 gttcactcca agtcacgca gtaccggaag atgaaaactg aatggaaatc caatgtgtat  
 5340  
 ctggcacggg ctcgattca ggggctgggc ctgtatgctg ctcgagacat tgagaaacac  
 5400  
 accatgggtc ttgagtacat cgggactatc attcgaaacg aagtagccaa caggaaagag  
 5460  
 aagctttatg agtctcagaa ccgtgggtgtg tacatgttcc gcatggataa cgaccatgtg  
 5520  
 attgacgca cgctcacagg agggcccgca aggtatatca accattcgtg tgcacctaat  
 5580  
 tgtgtggctg aagtgggtgac ttttgagaga ggacacaaaa ttatcatcag ctccagtcgg  
 5640  
 agaatccaga aaggagaaga gctctgctat gactataagt ttgactttga agatgaccag  
 5700  
 cacaagattc cgtgtcactg tggagctgtg aactgccgga agtggatgaa ctgaaatgca  
 5760  
 ttccttgcta gctcagcggg cggcttgtcc ctaggaagag gcgattcaac acaccattgg  
 5820  
 aattttgcag acagaaagag atttttgttt tctgttttat gactttttga aaaagcttct  
 5880  
 gggagttctg atttcctcag tcctttaggt taaagcagcg ccaggaggaa gctgacagaa  
 5940  
 gcagcgttcc tgaa  
 5954

<210> 3988

<211> 1817

<212> PRT

<213> Homo sapiens

<400> 3988

Asp	Gly	Ser	Ile	Thr	His	Gln	Ile	Ser	Arg	Pro	Asn	Pro	Pro	Asn	Phe
1				5				10						15	
Gly	Pro	Gly	Phe	Val	Asn	Asp	Ser	Gln	Arg	Lys	Gln	Tyr	Glu	Glu	Trp
			20					25					30		
Leu	Gln	Glu	Thr	Gln	Gln	Leu	Leu	Gln	Met	Gln	Gln	Lys	Tyr	Leu	Glu
		35					40					45			
Glu	Gln	Ile	Gly	Ala	His	Arg	Lys	Ser	Lys	Lys	Ala	Leu	Ser	Ala	Lys

50	55	60
Gln Arg Thr Ala Lys Lys Ala Gly Arg Glu Phe Pro Glu Glu Asp Ala		
65	70	75
Glu Gln Leu Lys His Val Thr Glu Gln Gln Ser Met Val Gln Lys Gln		80
	85	90
Leu Glu Gln Ile Arg Lys Gln Gln Lys Glu His Ala Glu Leu Ile Glu		95
	100	105
Asp Tyr Arg Ile Lys Gln Gln Gln Gln Cys Ala Met Ala Pro Pro Thr		110
	115	120
Met Met Pro Ser Val Gln Pro Gln Pro Pro Leu Ile Pro Gly Ala Thr		125
	130	135
Pro Pro Thr Met Ser Gln Pro Thr Phe Pro Met Val Pro Gln Gln Leu		140
145	150	155
Gln His Gln Gln His Thr Thr Val Ile Ser Gly His Thr Ser Pro Val		160
	165	170
Arg Met Pro Ser Leu Pro Gly Trp Gln Pro Asn Ser Ala Pro Ala His		175
	180	185
Leu Pro Leu Asn Pro Pro Arg Ile Gln Pro Pro Ile Ala Gln Leu Pro		190
	195	200
Ile Lys Thr Cys Thr Pro Ala Pro Gly Thr Val Ser Asn Ala Asn Pro		205
	210	215
Gln Ser Gly Pro Pro Pro Arg Val Glu Phe Asp Asp Asn Asn Pro Phe		220
225	230	235
Ser Glu Ser Phe Gln Glu Arg Glu Arg Lys Glu Arg Leu Arg Glu Gln		240
	245	250
Gln Glu Arg Gln Arg Ile Gln Leu Met Gln Glu Val Asp Arg Gln Arg		255
	260	265
Ala Leu Gln Gln Arg Met Glu Met Glu Gln His Gly Met Val Gly Ser		270
	275	280
Glu Ile Ser Ser Ser Arg Thr Ser Val Ser Gln Ile Pro Phe Tyr Ser		285
	290	295
Ser Asp Leu Pro Cys Asp Phe Met Gln Pro Leu Gly Pro Leu Gln Gln		300
305	310	315
Ser Pro Gln His Gln Gln Gln Met Gly Gln Val Leu Gln Gln Gln Asn		320
	325	330
Ile Gln Gln Gly Ser Ile Asn Ser Pro Ser Thr Gln Thr Phe Met Gln		335
	340	345
Thr Asn Glu Arg Arg Gln Val Gly Pro Pro Ser Phe Val Pro Asp Ser		350
	355	360
Pro Ser Ile Pro Val Gly Ser Pro Asn Phe Ser Ser Val Lys Gln Gly		365
	370	375
His Gly Asn Leu Ser Gly Thr Ser Phe Gln Gln Ser Pro Val Arg Pro		380
385	390	395
Ser Phe Thr Pro Ala Leu Pro Ala Ala Pro Pro Val Ala Asn Ser Ser		400
	405	410
Leu Pro Cys Gly Gln Asp Ser Thr Ile Thr His Gly His Ser Tyr Pro		415
	420	425
Gly Ser Thr Gln Ser Leu Ile Gln Leu Tyr Ser Asp Ile Ile Pro Glu		430
	435	440
Glu Lys Lys Lys Lys Lys Arg Thr Arg Lys Lys Lys Arg Asp Asp Asp		445
	450	455
Ala Glu Ser Thr Lys Ala Pro Ser Thr Pro His Ser Asp Ile Thr Ala		460
465	470	475
Pro Pro Thr Pro Gly Ile Ser Glu Thr Thr Ser Thr Pro Ala Val Ser		480

```

      485      490      495
Thr Pro Ser Glu Leu Pro Gln Gln Ala Asp Gln Glu Ser Val Glu Pro
      500      505      510
Val Gly Pro Ser Thr Pro Asn Met Ala Ala Gly Gln Leu Cys Thr Glu
      515      520      525
Leu Glu Asn Lys Leu Pro Asn Ser Asp Phe Ser Gln Ala Thr Pro Asn
      530      535      540
Gln Gln Thr Tyr Ala Asn Ser Glu Val Asp Lys Leu Ser Met Glu Thr
545      550      555      560
Pro Ala Lys Thr Glu Glu Ile Lys Leu Glu Lys Ala Glu Thr Glu Ser
      565      570      575
Cys Pro Gly Gln Glu Glu Pro Lys Leu Glu Glu Gln Asn Gly Ser Lys
      580      585      590
Val Glu Gly Asn Ala Val Ala Cys Pro Val Ser Ser Ala Gln Ser Pro
      595      600      605
Pro His Ser Ala Gly Ala Pro Ala Ala Lys Gly Asp Ser Gly Asn Glu
      610      615      620
Leu Leu Lys His Leu Leu Lys Asn Lys Lys Ser Ser Ser Leu Leu Asn
625      630      635      640
Gln Lys Pro Glu Gly Ser Ile Cys Ser Glu Asp Asp Cys Thr Lys Asp
      645      650      655
Asn Lys Leu Val Glu Lys Gln Asn Pro Ala Glu Gly Leu Gln Thr Leu
      660      665      670
Gly Ala Gln Met Gln Gly Gly Phe Gly Cys Gly Asn Gln Leu Pro Lys
      675      680      685
Thr Asp Gly Gly Ser Glu Thr Lys Lys Gln Arg Ser Lys Arg Thr Gln
      690      695      700
Arg Thr Gly Glu Lys Ala Ala Pro Arg Ser Lys Lys Arg Lys Lys Asp
705      710      715      720
Glu Glu Glu Lys Gln Ala Met Tyr Ser Ser Thr Asp Thr Phe Thr His
      725      730      735
Leu Lys Gln Val Arg Gln Leu Ser Leu Leu Pro Leu Met Glu Pro Ile
      740      745      750
Ile Gly Val Asn Phe Ala His Phe Leu Pro Tyr Gly Ser Gly Gln Phe
      755      760      765
Asn Ser Gly Asn Arg Leu Leu Gly Thr Phe Gly Ser Ala Thr Leu Glu
      770      775      780
Gly Val Ser Asp Tyr Tyr Ser Gln Leu Ile Tyr Lys Gln Asn Asn Leu
785      790      795      800
Ser Asn Pro Pro Thr Pro Pro Ala Ser Leu Pro Pro Thr Pro Pro Pro
      805      810      815
Met Ala Cys Gln Lys Met Ala Asn Gly Phe Ala Thr Thr Glu Glu Leu
      820      825      830
Ala Gly Lys Ala Gly Val Leu Val Ser His Glu Val Thr Lys Thr Leu
      835      840      845
Gly Pro Lys Pro Phe Gln Leu Pro Phe Arg Pro Gln Asp Asp Leu Leu
      850      855      860
Ala Arg Ala Leu Ala Gln Gly Pro Lys Thr Val Asp Val Pro Ala Ser
865      870      875      880
Leu Pro Thr Pro Pro His Asn Asn Gln Glu Glu Leu Arg Ile Gln Asp
      885      890      895
His Cys Gly Asp Arg Asp Thr Pro Asp Ser Phe Val Pro Ser Ser Ser
      900      905      910
Pro Glu Ser Val Val Gly Val Glu Val Ser Arg Tyr Pro Asp Leu Ser

```

```

          915              920              925
Leu Val Lys Glu Glu Pro Pro Glu Pro Val Pro Ser Pro Ile Ile Pro
  930              935              940
Ile Leu Pro Ser Thr Ala Gly Lys Ser Ser Glu Ser Arg Arg Asn Asp
  945              950              955              960
Ile Lys Thr Glu Pro Gly Thr Leu Tyr Phe Ala Ser Pro Phe Gly Pro
          965              970              975
Ser Pro Asn Gly Pro Arg Ser Gly Leu Ile Ser Val Ala Ile Thr Leu
          980              985              990
His Pro Thr Ala Ala Glu Asn Ile Ser Ser Val Val Ala Ala Phe Ser
          995              1000              1005
Asp Leu Leu His Val Arg Ile Pro Asn Ser Tyr Glu Val Ser Ser Ala
          1010              1015              1020
Pro Asp Val Pro Ser Met Gly Leu Val Ser Ser His Arg Ile Asn Pro
  1025              1030              1035              1040
Gly Leu Glu Tyr Arg Gln His Leu Leu Leu Arg Gly Pro Pro Pro Gly
          1045              1050              1055
Ser Ala Asn Pro Pro Arg Leu Val Ser Ser Tyr Arg Leu Lys Gln Pro
          1060              1065              1070
Asn Val Pro Phe Pro Pro Thr Ser Asn Gly Leu Ser Gly Tyr Lys Asp
          1075              1080              1085
Ser Ser His Gly Ile Ala Glu Ser Ala Ala Leu Arg Pro Gln Trp Cys
          1090              1095              1100
Cys His Cys Lys Val Val Ile Leu Gly Ser Gly Val Arg Lys Ser Phe
  1105              1110              1115              1120
Lys Asp Leu Thr Leu Leu Asn Lys Asp Ser Arg Glu Ser Thr Lys Arg
          1125              1130              1135
Val Glu Lys Asp Ile Val Phe Cys Ser Asn Asn Cys Phe Ile Leu Tyr
          1140              1145              1150
Ser Ser Thr Ala Gln Ala Lys Asn Ser Glu Asn Lys Glu Ser Ile Pro
          1155              1160              1165
Ser Leu Pro Gln Ser Pro Met Arg Glu Thr Pro Ser Lys Ala Phe His
          1170              1175              1180
Gln Tyr Ser Asn Asn Ile Ser Thr Leu Asp Val His Cys Leu Pro Gln
  1185              1190              1195              1200
Leu Pro Glu Lys Ala Ser Pro Pro Ala Ser Pro Pro Ile Ala Phe Pro
          1205              1210              1215
Pro Ala Phe Glu Ala Ala Gln Val Glu Ala Lys Pro Asp Glu Leu Lys
          1220              1225              1230
Val Thr Val Lys Leu Lys Pro Arg Leu Arg Ala Val His Gly Gly Phe
          1235              1240              1245
Glu Asp Cys Arg Pro Leu Asn Lys Lys Trp Arg Gly Met Lys Trp Lys
          1250              1255              1260
Lys Trp Ser Ile His Ile Val Ile Pro Lys Gly Thr Phe Lys Pro Pro
  1265              1270              1275              1280
Cys Glu Asp Glu Ile Asp Glu Phe Leu Lys Lys Leu Gly Thr Ser Leu
          1285              1290              1295
Lys Pro Asp Pro Val Pro Lys Asp Tyr Arg Lys Cys Cys Phe Cys His
          1300              1305              1310
Glu Glu Gly Asp Gly Leu Thr Asp Gly Pro Ala Arg Leu Leu Asn Leu
          1315              1320              1325
Asp Leu Asp Leu Trp Val His Leu Asn Cys Ala Leu Trp Ser Thr Glu
          1330              1335              1340
Val Tyr Glu Thr Gln Ala Gly Ala Leu Ile Asn Val Glu Leu Ala Leu

```

1345                      1350                      1355                      1360  
 Arg Arg Gly Leu Gln Met Lys Cys Val Phe Cys His Lys Thr Gly Ala  
                                  1365                      1370                      1375  
 Thr Ser Gly Cys His Arg Phe Arg Cys Thr Asn Ile Tyr His Phe Thr  
                                  1380                      1385                      1390  
 Cys Ala Ile Lys Ala Gln Cys Met Phe Phe Lys Asp Lys Thr Met Leu  
                                  1395                      1400                      1405  
 Cys Pro Met His Lys Pro Lys Gly Ile His Glu Gln Glu Leu Ser Tyr  
                                  1410                      1415                      1420  
 Phe Ala Val Phe Arg Arg Val Tyr Val Gln Arg Asp Glu Val Arg Gln  
 1425                      1430                      1435                      1440  
 Ile Ala Ser Ile Val Gln Arg Gly Glu Arg Asp His Thr Phe Arg Val  
                                  1445                      1450                      1455  
 Gly Ser Leu Ile Phe His Thr Ile Gly Gln Leu Leu Pro Gln Gln Met  
                                  1460                      1465                      1470  
 Gln Ala Phe His Ser Pro Lys Ala Leu Phe Pro Val Gly Tyr Glu Ala  
                                  1475                      1480                      1485  
 Ser Arg Leu Tyr Trp Ser Thr Arg Tyr Ala Asn Arg Arg Cys Arg Tyr  
 1490                      1495                      1500  
 Leu Cys Ser Ile Glu Glu Lys Asp Gly Arg Pro Val Phe Val Ile Arg  
 1505                      1510                      1515                      1520  
 Ile Val Glu Gln Gly His Glu Asp Leu Val Leu Ser Asp Ile Ser Pro  
                                  1525                      1530                      1535  
 Lys Gly Val Trp Asp Lys Ile Leu Glu Pro Val Ala Cys Val Arg Lys  
                                  1540                      1545                      1550  
 Lys Ser Glu Met Leu Gln Leu Phe Pro Ala Tyr Leu Lys Gly Glu Asp  
                                  1555                      1560                      1565  
 Leu Phe Gly Leu Thr Val Ser Ala Val Ala Arg Ile Ala Glu Ser Leu  
 1570                      1575                      1580  
 Pro Gly Val Glu Ala Cys Glu Asn Tyr Thr Phe Arg Tyr Gly Arg Asn  
 1585                      1590                      1595                      1600  
 Pro Leu Met Glu Leu Pro Leu Ala Val Asn Pro Thr Gly Cys Ala Arg  
                                  1605                      1610                      1615  
 Ser Glu Pro Lys Met Ser Ala His Val Lys Arg Phe Val Leu Arg Pro  
                                  1620                      1625                      1630  
 His Thr Leu Asn Ser Thr Ser Thr Ser Lys Ser Phe Gln Ser Thr Val  
                                  1635                      1640                      1645  
 Thr Gly Glu Leu Asn Ala Pro Tyr Ser Lys Gln Phe Val His Ser Lys  
 1650                      1655                      1660  
 Ser Ser Gln Tyr Arg Lys Met Lys Thr Glu Trp Lys Ser Asn Val Tyr  
 1665                      1670                      1675                      1680  
 Leu Ala Arg Ser Arg Ile Gln Gly Leu Gly Leu Tyr Ala Ala Arg Asp  
                                  1685                      1690                      1695  
 Ile Glu Lys His Thr Met Val Ile Glu Tyr Ile Gly Thr Ile Ile Arg  
                                  1700                      1705                      1710  
 Asn Glu Val Ala Asn Arg Lys Glu Lys Leu Tyr Glu Ser Gln Asn Arg  
                                  1715                      1720                      1725  
 Gly Val Tyr Met Phe Arg Met Asp Asn Asp His Val Ile Asp Ala Thr  
 1730                      1735                      1740  
 Leu Thr Gly Gly Pro Ala Arg Tyr Ile Asn His Ser Cys Ala Pro Asn  
 1745                      1750                      1755                      1760  
 Cys Val Ala Glu Val Val Thr Phe Glu Arg Gly His Lys Ile Ile Ile  
                                  1765                      1770                      1775  
 Ser Ser Ser Arg Arg Ile Gln Lys Gly Glu Glu Leu Cys Tyr Asp Tyr

1780 1785 1790  
 Lys Phe Asp Phe Glu Asp Asp Gln His Lys Ile Pro Cys His Cys Gly  
 1795 1800 1805  
 Ala Val Asn Cys Arg Lys Trp Met Asn  
 1810 1815

<210> 3989  
 <211> 4522  
 <212> DNA  
 <213> Homo sapiens

<400> 3989  
 nnggcacgag cgagggttcgg gctgggttggt ccgttgcgag ctgcagctgc gatctctgtg  
 60  
 gtaggcccag aagtgtatgc tgacttgtaa agtgaagaag ccagtgggtgc tgcgggtggt  
 120  
 cttttgggggt agtgtctggg atccagtagc agttgaatca ttgttcaaata aagggtgtaata  
 180  
 tgaaaagtga tcctctcttc agagatgtca aaaacaaaca aatccaagtc tggatctcgc  
 240  
 tcttctcgct caagatctgc atcaagatct cgttctcggt cattttcgaa gtctcggtcc  
 300  
 cgaagccgat ctctctctcg ttcaaggaag cgcaggctga gttctaggct tcgttccaga  
 360  
 tcatattctc cagctcataa cagagaaaga aaccacccaa gagtatatca gaatcgggat  
 420  
 ttccgaggtc acaacagagg ctatagaagg ccctattatt tccgtgggcg taacagagggc  
 480  
 ttttatccat ggggccaaata taaccgagga ggctatggaa actaccgctc aaattggcag  
 540  
 aattaccggc aagcatacag tcctcgtcga ggccgttcaa gatcccggtc cccaaagaga  
 600  
 aggtccccctt caccaagggtc caggagccat tctagaaact ctgataagtc gtcttctgac  
 660  
 cgggtcaaggc gtcctcatc ctcccggttct tcctccaacc atagccgagt tgaatcttct  
 720  
 aagcgcaagt ctgcaaagga gaaaaagtcc tcttctaagg atagccggcc atctcaggct  
 780  
 gccgggggata accagggaga tgagggtcaag gagcagacat tctctggagg cacctctcaa  
 840  
 gatacaaaaag catctgagag ctggaagcca tggccagatg ccacctacgg cactggttct  
 900  
 gcatcacggg cctcagcagt ttctgagctg agtcctcggg agcgaagccc agctctcaaa  
 960  
 agccccctcc agtctgtggt ggtgaggcgg cggtcacccc gtcttagccc cgtgcaaaaa  
 1020  
 cctagtcttc cactttccag cacatcccag atgggtctaa ctctgccgag tgggtgccggg  
 1080  
 tatcagtctg ggacacacca aggtcagttc gacctgggt ctgggtccct gagtccatcc  
 1140  
 aaaaagagcc ctgtgggtaa gaggccacca tccactgggt ccacatatgg ctcattctcag  
 1200  
 aaggaggaga gtgctgcttc agggaggaga gcctatacaa agagggtatct agaagagcag  
 1260

aagacagaga atggaaaaga taaggaacag aaacaaacaa ataccgataa agaaaaata  
1320  
aaagagaaaag ggagcttctc tgacacaggc ttgggtgatg gaaaaatgaa atctgattct  
1380  
tttgctccca aaactgattc tgagaagcct tttcggggca gtcagtctcc caaaaggat  
1440  
aagctccgag atgactttga gaagaagatg gctgacttcc acaaggagga gatggatgat  
1500  
caagataagg acaaagctaa gggaagaaaag gaatctgagt ttgatgatga acccaaattt  
1560  
atgtctaaag tcataggtgc aaacaaaaac caggaggagg agaagtcagg caaatgggag  
1620  
ggcctggat atgcacctcc aggaaggaa aagcagagaa aaacagagga gctggaggag  
1680  
gagtctttcc cagagagatc caaaaaggaa gatcggggca agagaagcga aggtgggcac  
1740  
aggggctttg tgctgagaa gaatttccga gtgactgctt ataaagcagt ccaggagaaa  
1800  
agctcatcac ctcccccaag aaagacctct gagagccgag acaagctggg agcgaaagga  
1860  
gattttccca caggaaagtc ttccttttcc attactcgag aggcacaggt caatgtccg  
1920  
atggactctt ttgatgagga cctcgacga cccagtggct tattggctca ggaacgcaag  
1980  
ctttgcccag atctagtcca tagcaacaaa aaggaacagg agtttcgttc cttttccag  
2040  
cacatacaat cagctcagtc tcagcgtagc ccctcagaac tgtttgcca acatatagtg  
2100  
accattgttc accatgttaa agagcatcac tttgggtcct caggaatgac attacatgaa  
2160  
cgctttacta aatacctaaa gagaggaact gagcaggagg cagccaaaaa caagaaaagc  
2220  
ccagagatac acaggagaat agacatttcc cccagtacat tcagaaaaca tggtttggct  
2280  
catgatgaaa tgaaaagtcc ccgggaacct ggctacaagg ctgagggaaa atacaaagat  
2340  
gatcctgttg atctccgct tgatattgaa cgtcgtaaaa aacataagga gagagatctt  
2400  
aaacgaggta aatcgagaga atcagtggat tcccagact ccagtcactc aagggaagg  
2460  
tcagctgaaa aaacagagaa aactcataaa ggatcaaaga aacagaagaa gcatcggaga  
2520  
gcaagagaca ggtccagatc ctctcctct tctcccagt catctcactc ctacaaagca  
2580  
gaagagtaca ctgaagagac agaggaaaga gaggagagca ccacgggctt tgacaaatca  
2640  
agactgggga ccaaagactt tgtgggtcca agtgaaagag gaggtggcag agctcgagga  
2700  
acctttcagt ttcgagccag aggaaggagg tggggcagag gcaactactc tgggaacaat  
2760  
aacaacaaca gcaacaacga ttttcaaaaa agaaaccggg aagaggagtg ggaccagag  
2820  
tacacacca aaagcaagaa gtattacttg catgatgacc gtgaaggcga aggcagtgac  
2880



aagtgggtga gccggggccg gggccgagga gcctttcctc ggggtcgggg ccggttcacg  
2940  
ttccggaaat caagtaccag ccccaagtgg gcccatgaca agttcagtgg ggaggaaggg  
3000  
gagattgaag acgacgagag tgggacagag aaccgagaag agaaggacaa tatacagccc  
3060  
acaaccgagt aggggccacc cttgacggga ttctgcccc ggggagagag gcgctgggaa  
3120  
gatggctggg gaggagctta acagaggaac ctcaagaaga ttctgaaaat cctaccccc  
3180  
ccccccacca gccgcacaga ttgtactacc gcgagaggca tccctggcgc tgtctccac  
3240  
tggacagagg aggctggcca tggggcccag gggtcaggcc cagcttttga gcagaatata  
3300  
acgcattggg ctttagctgt ttttctcatt tgttggtgtg tggggtgggg gcaagggtag  
3360  
ggcgggagag tgatgcttgg atttttgttt cctattagaa accaacagtt ttgttcta  
3420  
ttcatttcat ttggagctaa gatgactaat ttgatgattt tcgatctctt ttcccctgtc  
3480  
ctgattttta aagccccctc cttttttttt ttttttttcc tttttttagg catatgtagt  
3540  
aatattagaa acatttaatt tgggaaactt tgattcttga aagagaaaac aaaagcatgt  
3600  
gaataaactt tgaagtgttc acctcagttt gggacaaaac tgcttggtac tttgtaaaaa  
3660  
ccggttttgt atgtcaagga ggagtttaag gcctttccga ccacctgtg ttcccctttt  
3720  
ctgcgcagcc atgtatcacg tggagttgct ccttaccaca cctcacgtgc ccctgagccc  
3780  
tatttcctga tttcttctgg gctggacttc cccgttctcc accagcagct ccagtatccc  
3840  
aaactttcta gtctgctga tcctcccagc aacggggtgg aaactggagg gcagtgtctg  
3900  
gtctgttttc taagaaactt atgaattcta ttatctttac aaatatgaga aaattttttc  
3960  
aatatttttt attaattctt ttataaaatg aaaagaaact cctatgatcg attaaggaag  
4020  
gtggttatgg ctgggtggtt caggggtttt tttgggtttc tttttttttt tctttgtctt  
4080  
tttaacctta agctgtttta gttgaagcat tctcagatgt ttggggggaa acatcctctt  
4140  
aaaatgggtc cttgtgcttg ccttctgggg aggcggtcct gagcaggtga atcataaggc  
4200  
atttatgcat atgttatatg cggactgcac ccacctctcc ccccagcct ttgcctcttg  
4260  
ggttggtgtg ctgctttccc cttactttgc tacatttcta tagttaagtt ggttttactt  
4320  
gaatgattca tgtttagggg gaaaatgaaa atctccctta aaatttgttt caactcctcc  
4380  
tgcaataaaa ataaatgaag tggcagatgt aaaaaaaaaa aaagagaaga gaagagatcc  
4440  
cagcagaatt ttttttcttt aagtagactg acaaacagat tgtttctgcc tctgctgctg  
4500

ccagggtgccc atgaaaaagt gg  
4522

<210> 3990

<211> 955

<212> PRT

<213> Homo sapiens

<400> 3990

Met	Ser	Lys	Thr	Asn	Lys	Ser	Lys	Ser	Gly	Ser	Arg	Ser	Ser	Arg	Ser
1				5					10					15	
Arg	Ser	Ala	Ser	Arg	Ser	Arg	Ser	Arg	Ser	Phe	Ser	Lys	Ser	Arg	Ser
		20						25					30		
Arg	Ser	Arg	Ser	Leu	Ser	Arg	Ser	Arg	Lys	Arg	Arg	Leu	Ser	Ser	Arg
		35					40					45			
Ser	Arg	Ser	Arg	Ser	Tyr	Ser	Pro	Ala	His	Asn	Arg	Glu	Arg	Asn	His
	50					55				60					
Pro	Arg	Val	Tyr	Gln	Asn	Arg	Asp	Phe	Arg	Gly	His	Asn	Arg	Gly	Tyr
65				70						75					80
Arg	Arg	Pro	Tyr	Tyr	Phe	Arg	Gly	Arg	Asn	Arg	Gly	Phe	Tyr	Pro	Trp
				85					90					95	
Gly	Gln	Tyr	Asn	Arg	Gly	Gly	Tyr	Gly	Asn	Tyr	Arg	Ser	Asn	Trp	Gln
			100					105					110		
Asn	Tyr	Arg	Gln	Ala	Tyr	Ser	Pro	Arg	Arg	Gly	Arg	Ser	Arg	Ser	Arg
		115					120					125			
Ser	Pro	Lys	Arg	Arg	Ser	Pro	Ser	Pro	Arg	Ser	Arg	Ser	His	Ser	Arg
		130				135					140				
Asn	Ser	Asp	Lys	Ser	Ser	Ser	Asp	Arg	Ser	Arg	Arg	Ser	Ser	Ser	Ser
145				150						155				160	
Arg	Ser	Ser	Ser	Asn	His	Ser	Arg	Val	Glu	Ser	Ser	Lys	Arg	Lys	Ser
				165					170					175	
Ala	Lys	Glu	Lys	Lys	Ser	Ser	Ser	Lys	Asp	Ser	Arg	Pro	Ser	Gln	Ala
			180					185					190		
Ala	Gly	Asp	Asn	Gln	Gly	Asp	Glu	Val	Lys	Glu	Gln	Thr	Phe	Ser	Gly
		195					200					205			
Gly	Thr	Ser	Gln	Asp	Thr	Lys	Ala	Ser	Glu	Ser	Ser	Lys	Pro	Trp	Pro
						215						220			
Asp	Ala	Thr	Tyr	Gly	Thr	Gly	Ser	Ala	Ser	Arg	Ala	Ser	Ala	Val	Ser
225				230						235				240	
Glu	Leu	Ser	Pro	Arg	Glu	Arg	Ser	Pro	Ala	Leu	Lys	Ser	Pro	Leu	Gln
				245					250					255	
Ser	Val	Val	Val	Arg	Arg	Arg	Ser	Pro	Arg	Pro	Ser	Pro	Val	Pro	Lys
			260					265					270		
Pro	Ser	Pro	Pro	Leu	Ser	Ser	Thr	Ser	Gln	Met	Gly	Ser	Thr	Leu	Pro
		275					280					285			
Ser	Gly	Ala	Gly	Tyr	Gln	Ser	Gly	Thr	His	Gln	Gly	Gln	Phe	Asp	His
		290				295					300				
Gly	Ser	Gly	Ser	Leu	Ser	Pro	Ser	Lys	Lys	Ser	Pro	Val	Gly	Lys	Ser
305				310						315				320	
Pro	Pro	Ser	Thr	Gly	Ser	Thr	Tyr	Gly	Ser	Ser	Gln	Lys	Glu	Glu	Ser
				325					330					335	
Ala	Ala	Ser	Gly	Gly	Ala	Ala	Tyr	Thr	Lys	Arg	Tyr	Leu	Glu	Glu	Gln
			340					345					350		
Lys	Thr	Glu	Asn	Gly	Lys	Asp	Lys	Glu	Gln	Lys	Gln	Thr	Asn	Thr	Asp

355 360 365  
 Lys Glu Lys Ile Lys Glu Lys Gly Ser Phe Ser Asp Thr Gly Leu Gly  
 370 375 380  
 Asp Gly Lys Met Lys Ser Asp Ser Phe Ala Pro Lys Thr Asp Ser Glu  
 385 390 395 400  
 Lys Pro Phe Arg Gly Ser Gln Ser Pro Lys Arg Tyr Lys Leu Arg Asp  
 405 410 415  
 Asp Phe Glu Lys Lys Met Ala Asp Phe His Lys Glu Glu Met Asp Asp  
 420 425 430  
 Gln Asp Lys Asp Lys Ala Lys Gly Arg Lys Glu Ser Glu Phe Asp Asp  
 435 440 445  
 Glu Pro Lys Phe Met Ser Lys Val Ile Gly Ala Asn Lys Asn Gln Glu  
 450 455 460  
 Glu Glu Lys Ser Gly Lys Trp Glu Gly Leu Val Tyr Ala Pro Pro Gly  
 465 470 475 480  
 Lys Glu Lys Gln Arg Lys Thr Glu Glu Leu Glu Glu Glu Ser Phe Pro  
 485 490 495  
 Glu Arg Ser Lys Lys Glu Asp Arg Gly Lys Arg Ser Glu Gly Gly His  
 500 505 510  
 Arg Gly Phe Val Pro Glu Lys Asn Phe Arg Val Thr Ala Tyr Lys Ala  
 515 520 525  
 Val Gln Glu Lys Ser Ser Ser Pro Pro Pro Arg Lys Thr Ser Glu Ser  
 530 535 540  
 Arg Asp Lys Leu Gly Ala Lys Gly Asp Phe Pro Thr Gly Lys Ser Ser  
 545 550 555 560  
 Phe Ser Ile Thr Arg Glu Ala Gln Val Asn Val Arg Met Asp Ser Phe  
 565 570 575  
 Asp Glu Asp Leu Ala Arg Pro Ser Gly Leu Leu Ala Gln Glu Arg Lys  
 580 585 590  
 Leu Cys Arg Asp Leu Val His Ser Asn Lys Lys Glu Gln Glu Phe Arg  
 595 600 605  
 Ser Ile Phe Gln His Ile Gln Ser Ala Gln Ser Gln Arg Ser Pro Ser  
 610 615 620  
 Glu Leu Phe Ala Gln His Ile Val Thr Ile Val His His Val Lys Glu  
 625 630 635 640  
 His His Phe Gly Ser Ser Gly Met Thr Leu His Glu Arg Phe Thr Lys  
 645 650 655  
 Tyr Leu Lys Arg Gly Thr Glu Gln Glu Ala Ala Lys Asn Lys Lys Ser  
 660 665 670  
 Pro Glu Ile His Arg Arg Ile Asp Ile Ser Pro Ser Thr Phe Arg Lys  
 675 680 685  
 His Gly Leu Ala His Asp Glu Met Lys Ser Pro Arg Glu Pro Gly Tyr  
 690 695 700  
 Lys Ala Glu Gly Lys Tyr Lys Asp Asp Pro Val Asp Leu Arg Leu Asp  
 705 710 715 720  
 Ile Glu Arg Arg Lys Lys His Lys Glu Arg Asp Leu Lys Arg Gly Lys  
 725 730 735  
 Ser Arg Glu Ser Val Asp Ser Arg Asp Ser Ser His Ser Arg Glu Arg  
 740 745 750  
 Ser Ala Glu Lys Thr Glu Lys Thr His Lys Gly Ser Lys Lys Gln Lys  
 755 760 765  
 Lys His Arg Arg Ala Arg Asp Arg Ser Arg Ser Ser Ser Ser Ser  
 770 775 780  
 Gln Ser Ser His Ser Tyr Lys Ala Glu Glu Tyr Thr Glu Glu Thr Glu

<400> 3992  
Xaa Tyr Gln Pro Leu Arg Met Val Pro Arg Gly Ser Gln Leu Tyr Pro  
1 5 10 15  
Ala Gln Gln Thr Asp Val Tyr Tyr Gln Asp Pro Arg Gly Ala Ala Pro  
20 25 30  
Pro Phe Glu Pro Ala Pro Tyr Gln Gln Gly Met Tyr Tyr Thr Pro Pro

```

      35          40          45
Pro Gln Cys Val Ser Arg Phe Val Arg Pro Pro Pro Ser Ala Pro Glu
      50          55          60
Pro Ala Pro Pro Tyr Leu Asp His Tyr Pro Pro Tyr Leu Gln Glu Arg
      65          70          75          80
Val Val Asn Ser Gln Tyr Gly Thr Gln Pro Gln Gln Tyr Pro Pro Ile
      85          90          95
Tyr Pro Ser His Tyr Asp Gly Arg Arg Val Tyr Pro Ala Pro Ser Tyr
      100          105          110
Thr Arg Glu Ile Phe Arg Glu Ser Pro Ile Pro Ile Glu Ile
      115          120          125

```

&lt;210&gt; 3993

&lt;211&gt; 394

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3993

```

naccgctggg ggaggactcg agaagccgcc gccgcagcac aaaggaacga gactagcgcc
60
gcggtcgcgt cccacaggct gccgagcgga gcgcgcacag agggggccaa cattaacaaa
120
ccggattgtg aggggtgaaac tccattcac aaggcagctc gctctgggag cctagaatgc
180
atcagtcccc ttgtggcgaa tggggctcac gtcgagtaag tgtctttcgt ttattcttcc
240
cagctaaaaga tgtagttgag gatgttttgt ttaaaggcag tacataagca ggcaaaagtc
300
ctaaaacttt gttttcaaaa ttagtaatgt aattttgcct tttagaacag ttggtgttag
360
tgaggaaaat tgtgtggatt aaattgatct ccag
394

```

&lt;210&gt; 3994

&lt;211&gt; 72

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3994

```

Xaa Ala Trp Gly Arg Thr Arg Glu Ala Ala Ala Ala Ala Gln Arg Asn
 1          5          10          15
Glu Thr Ser Ala Ala Val Ala Ser His Arg Leu Pro Ser Gly Ala Arg
      20          25          30
Thr Glu Gly Ala Asn Ile Asn Lys Pro Asp Cys Glu Gly Glu Thr Pro
      35          40          45
Ile His Lys Ala Ala Arg Ser Gly Ser Leu Glu Cys Ile Ser Ala Leu
      50          55          60
Val Ala Asn Gly Ala His Val Glu
65          70

```

&lt;210&gt; 3995

&lt;211&gt; 715

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3995

nacgcgtgaa ggggacccgc tgccaaccag cccggctggc ggggggagct gcaggaggaa  
 60  
 ggtgctgtgg ggggagcggc cgcggagact ggcaggcggg accgctcaag cagtgtgagg  
 120  
 cggacccagg ccattcggag acgccacaat gcaggcagca accccacccc tccagcctct  
 180  
 gtcattgggt cgccgccag cagcctgcag gaagctcagc ggggccgggc tgcctccac  
 240  
 tcccgggcgc tgacgtgcc ctctgcgtg catttcgcct cttcactgtt gctcaccgg  
 300  
 gccggtgcca atgtgcatga ggctgcacc ttgatgaca cttctgaggg tgctgtgcac  
 360 atgagagcgg tgtgcggcgt tctacacct ttggcctggc tggaggcggc 420  
 tacgagaacc ctgtagggca gcaaggggag cagacagcta atggagcctg ggaccgacac  
 480  
 tcgcattcct ccagcttcca ctgggtgat gtccctgagg ctacaggcgg cctgaacctg  
 540  
 ctgcagccga ggctgtggt tctgcagggc atgcagggtc gccgggtgcc cctggagatc  
 600  
 ccggagtttg acctgctgga ccaggactcc ctgcacgaat cccaggagca gacactgatg  
 660  
 gaagaagcgc caccgccggc ccagcatagt tacaagtact tgggcttcgg agaga  
 715

&lt;210&gt; 3996

&lt;211&gt; 235

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 3996

Arg	Gly	Pro	Ala	Ala	Asn	Gln	Pro	Gly	Trp	Arg	Gly	Glu	Leu	Gln	Glu
1				5				10					15		
Glu	Gly	Ala	Val	Gly	Gly	Ala	Ala	Ala	Glu	Thr	Gly	Arg	Arg	Asp	Arg
		20					25					30			
Ser	Ser	Ser	Val	Arg	Arg	Thr	Gln	Ala	Ile	Arg	Arg	Arg	His	Asn	Ala
		35					40					45			
Gly	Ser	Asn	Pro	Thr	Pro	Pro	Ala	Ser	Val	Met	Gly	Ser	Pro	Pro	Ser
		50				55					60				
Ser	Leu	Gln	Glu	Ala	Gln	Arg	Gly	Arg	Ala	Ala	Ser	His	Ser	Arg	Ala
65					70				75					80	
Leu	Thr	Leu	Pro	Ser	Ala	Leu	His	Phe	Ala	Ser	Ser	Leu	Leu	Leu	Thr
				85					90					95	
Arg	Ala	Gly	Ala	Asn	Val	His	Glu	Ala	Cys	Thr	Phe	Asp	Asp	Thr	Ser
		100						105					110		
Glu	Gly	Ala	Val	His	Tyr	Phe	Tyr	Asp	Glu	Ser	Gly	Val	Arg	Arg	Ser
		115					120					125			
Tyr	Thr	Phe	Gly	Leu	Ala	Gly	Gly	Gly	Tyr	Glu	Asn	Pro	Val	Gly	Gln
		130				135					140				
Gln	Gly	Glu	Gln	Thr	Ala	Asn	Gly	Ala	Trp	Asp	Arg	His	Ser	His	Ser
145					150					155				160	
Ser	Ser	Phe	His	Ser	Ala	Asp	Val	Pro	Glu	Ala	Thr	Gly	Gly	Leu	Asn
				165					170					175	
Leu	Leu	Gln	Pro	Arg	Pro	Val	Val	Leu	Gln	Gly	Met	Gln	Val	Arg	Arg

	180		185		190										
Val	Pro	Leu	Glu	Ile	Pro	Glu	Phe	Asp	Leu	Leu	Asp	Gln	Asp	Ser	Leu
	195		200		205										
His	Glu	Ser	Gln	Glu	Gln	Thr	Leu	Met	Glu	Glu	Ala	Pro	Pro	Arg	Ala
	210		215		220										
Gln	His	Ser	Tyr	Lys	Tyr	Leu	Gly	Phe	Gly	Glu					
225			230		235										

&lt;210&gt; 3997

&lt;211&gt; 7484

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3997

```

nncgcaaggc tgggttacgt gaggaagctg ggggtttcgc gggcagcttt agagccccag
60
tcagggaaac cgaggccggg cttcttggtt gcctcgcgag cctcttcatt gctctcgccg
120
ccgccttgag gtgcctagaa tgggttccgg cctccgggga ggttcccagt aaccgcagga
180
gccaccattg atttggcgtc tgctgggtgc aaagcccagc gcgctaacc tttactcgcg
240
acctttcgct tcaccttcac agcagccctg cgaggagagt tgtggactgg ggcaaccttt
300
gccagtgatg agaagtgatg ctctggcag tgctgaatct ctctgaatat gattcgaatt
360
gcagccttaa atgccagctc caccattgag gatgatcatg aagggaagctt taaaagtcac
420
aaaaccagca caaaggaggc tcaggaagca gaggttttg cattgtacca caaggccctt
480
gatctgcaga aacatgaccg gtttgaggag tctgccaag cctaccatga gctctggag
540
gcgagcctgc tgcgggaggc agtttcatcc ggtgatgaga aagaggggtt gaaacacctt
600
gggtgtgatac tgaaatattc cacttataag aacttgccc agctggcagc ccagcgggag
660
gatctggaga cagccatgga gttctactta gaggcagtga tgctggactc cacagatgtc
720
aacctctggt ataagattgg acatgtggcc ctgaggctca tccggatccc cctggctcgc
780
catgtttttg aggaagggtt gcggtgcaat cctgaccact ggccctgttt ggataacctt
840
atcaactgtcc tgtacaccct cagtgtttac acaacatgtc tgtacttcat ctgcaaagct
900
ttggagaagg attgccggtc cagcaaaggg ctggtcctca aggagaagat ttttgaggag
960
cagccttgct tccggaagga ctctctcaga atgttctca aatgtgacat gtcgattcac
1020
gatgtttcgg tgagtgcagc tgagacacag gcgattgtag atgaggcctt ggggctgcga
1080
aaaaagaggc aagcgctgat tgtgcgggag aaggagccgg acctgaaact tgtgcagccc
1140
attcctttct tcacctggaa gtgcctcgga gagagcttgc tggccatgta caatcatctc
1200

```

accacctgtg agccccacg tcccagcctt ggcaaaagga ttgatttgtc ggactaccag  
1260  
gacccagcc agcctcttga gtccctcatg gtggtgacgc cagttaacgt gatccagcca  
1320  
agcactgtca gcaccaaccc agctgtggct gtcgccgagc ctgtggtctc ctacacctct  
1380  
gtggctacaa ccagcttccc actgcacagt cctggtctgt tggagacagg cgctcctgtg  
1440  
ggtgatattt ctgggggaga taaatccaag aaaggggtaa aacggaagaa gatttcagaa  
1500  
gagagtggag aaacagcaaa gggcggtct gcccggtgcc gaaacaccaa gtgcaaaaaa  
1560  
gaagagaaag tagacttcca ggagcttctg atgaagttct tgccgtccag gtaagaaag  
1620  
ctggaccctg aggaggaaga tgattccttt aataactatg aagtcagtc agaagccaaa  
1680  
ctggaaagct tcccagcat tgggcctcaa aggctgtcat ttgactcagc cacattcatg  
1740  
gaatctgaaa agcaggacgt gcatgagttc ctgctggaga acctaaccaa cgggggcac  
1800  
ctggagctga tgatgcgcta cctgaaagcc atgggccaca agttcttggg aaggtggcct  
1860  
ccaggcttgg cggaggtcgt gctcagcgtc taccacagct ggaggaggca cagcaccagc  
1920  
ctgcccaccc cgctgctgag ggactgcagc aacaagcaca tcaaggacat gatgctgatg  
1980  
tctctctcct gcatggaact ccagctggac cagtggctgc tgaccaaagg cagaagctct  
2040  
gcagtgtctc ctcggaactg ccctgctggg atgggtaatg gcagatttgg acctgacttc  
2100  
ccagggaccc actgcctggg tgacctcta cagctgtcat ttgcctcgtc ccagcgcgac  
2160  
ctgttcgagg atggttggct ggagtttgtg gtccgtgttt actggctgaa ggctcgcttc  
2220  
ctggcgctgc agggagacat ggagcaggcc ctggagaact atgacatctg cacagaaatg  
2280  
ctccagagtt ccaccgccat ccagggtggag gcaggggctg aacgaagaga cattgtcatc  
2340  
cggctgcccc acctccataa tgactctgtg gtttccctgg aggagattga taagaacctg  
2400  
aagtcgctgg agcgggtgcca gtccctggag gagattcagc ggctgtatga agcaggcgac  
2460  
tacaaggctg ttgtgcatct gtcgcgccc actttgtgca ccagtgggtt tgaccgggcc  
2520  
aaacacctgg agtttatgac ttccattcct gagaggccag cccagctgct tcttctgcag  
2580  
gactccttgc tccggctgaa ggactatcgg cagtgttttg agtggtccga tgtggctctg  
2640  
aacgaggtg tccagcagat ggtgaactca ggtgaggctg ccgccaagga ggagtgggtg  
2700  
gccacagtga cccaactgct gatgggcac gagcaggccc tctctgcgga cagcagtggt  
2760  
agcatcctga aggtatcatc ctccaccact ggccttgtgc ggctcaccaa caacctcatc  
2820



caggtcattg actgcagcat ggctgtgcag gaggaggcca aggagcccca cgtctcttca  
2880  
gtgctaccct ggatcattct acaccggatc atctggcagg aggaagacac cttccattct  
2940  
ctgtgccacc agcagcagct ccaaaaccca gcggaggaag ggatgtcaga gacgcccattg  
3000  
ctcccatcct ccctcatgct gctgaacaca gccacagagt atttgggcag aaggctcttg  
3060  
tgctgcaatt cagatggggc tctgctgcga ttctatgtgc gagtactcca gaaggaactg  
3120  
gctgcatcca cctctgaaga cacgcacctt tacaaggagg agctggagac agccttggag  
3180  
cagtgtctct actgcctgta cagcttcccc agcaagaaga gtaaggccag gtacctggag  
3240  
gaacactcgg ccagcaggt ggatcttata tgggaggatg cactgttcat gtttgagtat  
3300  
tttaagccca agacccttcc tgaatttgac agctataaga ccagcaccgt gtctgctgac  
3360  
ttggccaacc tactgaagag aattgccacc attgtgcctc gcacagagag gccagccctt  
3420  
agcctggaca aagtctctgc ctacattgag ggaacttcaa ctgaggtacc ctgcctccca  
3480  
gagggggctg acccctcccc tccagtgggtg aacgagcttt actacctcct ggctgattat  
3540  
catttcaaaa acaaggagca gtccaaggcc atcaagttct acatgcatga catctgcata  
3600  
tgccccaata ggtttgatcc ctgggcaggc atggctctgg cccgggccag ccgcattcag  
3660  
gacaagctga actccaatga gctgaagagt gatgggcccc tttggaagca tgccacgccc  
3720  
gtcttgaact gcttccgtcg ggccttggag attgacagct ccaacttgtc cctatggatt  
3780  
gagtatggca ccatgtccta tgccttgac tcattcgcct cacgtcaatt gaagcagtgg  
3840  
agaggcgagc tgccccctga gctcgtgcag cagatggagg gccggcgaga cagcatgcta  
3900  
gagacagcca agcactgttt cacatcagca gcccgctgcg aggggtgatgg tgacgaggag  
3960  
gagtggctca tccactacat gctgggcaag gtggctgaga agcagcagca gccaccaccc  
4020  
gtttacttgc tgcactacag gcaggctggc cactacctgc acgaggaggc tgcccgtac  
4080  
cccaagaaga tccactacca caaccacct gagctggcca tggaggccct ggaggtgtac  
4140  
tttcggctcc atgcttccat cctgaagctc ctggggaagc ccgattctgg ggttggtgca  
4200  
gaggctctgg tcaactttat gaaggaggct gcagaaggac cctttgccag gggcgaggag  
4260  
aagaacacac ccaaagcttc agaaaaggag aaggcctgcc tgggtggacga ggactccac  
4320  
tcttcagctg ggacactgcc gggccccgga gcctccctcc cctcctcctc tggcccaggt  
4380  
ctgacatccc caccttacac agccactccg attgaccacg attacgtcaa atgtaaaaaa  
4440

ccccaccagc aggcaacgcc ggacgaccga agccaggaca gcacagccgt agcactctca  
4500  
gactctagct caacgcagga cttctttaat gagcccacca gcttactgga aggctccagg  
4560  
aaatcctaca cagagaagag gctgcccatt ctcagttccc aagcaggagc gacgggtaaa  
4620  
gatcttcagg gggccacaga agaaagagga aaaaacgagg agtcattgga gagtacagaa  
4680  
ggcttccggg ctgcagagca aggtgtccag aagcctgctg cagaaacccc agcctctgct  
4740  
tgcacccctg gcaagccctc agcatccaca cccaccctgt gggatgggaa gaagagaggg  
4800  
gacctcccag gggagccagt ggccttcccc caggggctgc cggctggtgc tgaggagcag  
4860  
cggcagtttc tcacagagca gtgcatcgcc tccttccgcc tgtgcctgag ccgcttcccc  
4920  
cagcactata agagtctcta ccgtctggcc ttctctaca cctacagcaa gaccaccgg  
4980  
aacctccagt gggcccgca cgtgttgcta ggcagcagta tcccgaggca acaactgcag  
5040  
cacatgccgg cacaggggct cttctgcgag aggaacaaga ccaatttctt caacggcatc  
5100  
tgggggatcc ccgtggacga gattgaccgg cggggcagct ttgcctggca catgaaccgc  
5160  
tccatcgtgc tgctgctcaa ggtgctggcc cagctgcggg accacagcac cctgctgaag  
5220  
gtgtctcca tgcttcagcg gaccccagac cagggcaaga agtatctgcg agatgctgac  
5280  
cgccaggtcc tggcgacgag ggccttcac ctcactgtga aggtgctcga agacacgctg  
5340  
agcgagctcg cagaggggtc agaacgccc aaggcccaagg tctgtggcct ccccgagacc  
5400  
aggatgacca ccgatgtctc acacaaggcc agtcctgagg atggccagga gggcctcccc  
5460  
cagccgaaga agcccctct ggctgatggc tcagggccag ggcccagacc aggaggcaaa  
5520  
gtgggcctcc tcaaccaccg gctgtgggct atggatgcag gagacagtgc agaccaaagc  
5580  
ggggagcgga aggataaaga gagcccacgg gcagggccca ctgagcccat ggacacgagt  
5640  
gaggccactg tttgccactc agacttgag cggacaccac ccctgctgcc aggtcgcccc  
5700  
gcaagggacc ggggccccga gagccggccc actgagctgt ccctggagga gctgagcatc  
5760  
agtgcgccgc agcagcccac cccgctcacc ccagcccagc cagccccgc ccccgcccc  
5820  
gccaccacca cagggaccag ggcagggggc caccggagg agccgctctc ccggctcagc  
5880  
cgcaagagga agtccttgga ggacacagag tcaggcaaga cacttctgtt ggatgcctac  
5940  
cgtgtgtggc agcagggcca gaagggtgtg gcctatgacc tgggccgtgt ggagaggatc  
6000  
atgtcggaga cctacatgct catcaagcag gtggatgagg aggctgcgct ggagcaggct  
6060

gtgaagttct gccaggcca tcttggggct gccgccaga gacaggcctc gggggacacc  
6120  
cccaccctc caaagcacc caaagacagc cgagagaact tctttcctgt gacagtgggtg  
6180  
cccacagccc ctgaccctgt gccagctgac tctgtccagc ggcccagtga tgctcacacc  
6240  
aagcctcgcc ctgactagc tgccgccaca actattatca cctgccctcc gtcagcatca  
6300  
gcttcacccc tggaccagtc caaggacctt gggcctcccc ggccacacag gcctgaagct  
6360  
accccagca tggcctctct gggcccagag ggagaagagc tggcgagagt ggagagggg  
6420  
accagcttcc cgcctcagga gccacggcac agtccgcagg tgaagatggc cccacaagt  
6480  
tccccggcag agccacactg ctggccggca gaggtgccc tgggcacagg cgctgagccc  
6540  
acctgcagcc aggaggggaa actgaggcct gagccgagaa gggatgggga ggctcaggag  
6600  
gctgcgagtg agactcagcc cctgagctct ccccaacag ctgccagctc caaggcccc  
6660  
agcagtggga gtgccagcc accagagggg caccaggca agcctgagcc cagccgggt  
6720  
aagtcccgcc cctgcccaa catgccaaag ctggtcatcc cctccgccc caccaagttc  
6780  
ccccctgaga tcaccgtcac gccaccacc ccaaccctgc tctccccaa aggcagcatc  
6840  
tcggaggaga ccaagcagaa gctgaagtca gccatccttt ctgccagtc tgctgccaac  
6900  
gtgaggaagg agagcctatg ccagccagcc ctggaggtcc tggagacatc cagccaggag  
6960  
tcctcgctgg agagcgagac agacgaggac gacgactaca tggacatttg aggggcccact  
7020  
gcagccccac cgccacgccc caggggacca gccaggcctg gaatgcccc tgggcaggac  
7080  
cctgggcagg accagaggcc cacatggatg ccactccca cacagcccc aggcctgccc  
7140  
agccacctc ctcatggcat cctccctgta cccaggtcag gctgtccaca ccacatggga  
7200  
gcccagagga ggaggggccc gccttagcca tgtgaagggt gattggtcgc catctgcacg  
7260  
ccaggcgga tccttttcta tgaagtgtg actttgtaaa tetgcccaca cccagctggc  
7320  
catatccacc cctcgacgcc gggatgagcc ggctctgcct gtgtcacagt ggaggggtcc  
7380  
tttagggcca ggctcaccac tcaccctttt ttggttgct tttctaataa agatggaaca  
7440  
gttaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa  
7484

&lt;210&gt; 3998

&lt;211&gt; 2220

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

<400> 3998  
Met Ile Arg Ile Ala Ala Leu Asn Ala Ser Ser Thr Ile Glu Asp Asp  
1 5 10 15  
His Glu Gly Ser Phe Lys Ser His Lys Thr Gln Thr Lys Glu Ala Gln  
20 25 30  
Glu Ala Glu Ala Phe Ala Leu Tyr His Lys Ala Leu Asp Leu Gln Lys  
35 40 45  
His Asp Arg Phe Glu Glu Ser Ala Lys Ala Tyr His Glu Leu Leu Glu  
50 55 60  
Ala Ser Leu Leu Arg Glu Ala Val Ser Ser Gly Asp Glu Lys Glu Gly  
65 70 75 80  
Leu Lys His Pro Gly Leu Ile Leu Lys Tyr Ser Thr Tyr Lys Asn Leu  
85 90 95  
Ala Gln Leu Ala Ala Gln Arg Glu Asp Leu Glu Thr Ala Met Glu Phe  
100 105 110  
Tyr Leu Glu Ala Val Met Leu Asp Ser Thr Asp Val Asn Leu Trp Tyr  
115 120 125  
Lys Ile Gly His Val Ala Leu Arg Leu Ile Arg Ile Pro Leu Ala Arg  
130 135 140  
His Ala Phe Glu Glu Gly Leu Arg Cys Asn Pro Asp His Trp Pro Cys  
145 150 155 160  
Leu Asp Asn Leu Ile Thr Val Leu Tyr Thr Leu Ser Asp Tyr Thr Thr  
165 170 175  
Cys Leu Tyr Phe Ile Cys Lys Ala Leu Glu Lys Asp Cys Arg Tyr Ser  
180 185 190  
Lys Gly Leu Val Leu Lys Glu Lys Ile Phe Glu Glu Gln Pro Cys Leu  
195 200 205  
Arg Lys Asp Ser Leu Arg Met Phe Leu Lys Cys Asp Met Ser Ile His  
210 215 220  
Asp Val Ser Val Ser Ala Ala Glu Thr Gln Ala Ile Val Asp Glu Ala  
225 230 235 240  
Leu Gly Leu Arg Lys Lys Arg Gln Ala Leu Ile Val Arg Glu Lys Glu  
245 250 255  
Pro Asp Leu Lys Leu Val Gln Pro Ile Pro Phe Phe Thr Trp Lys Cys  
260 265 270  
Leu Gly Glu Ser Leu Leu Ala Met Tyr Asn His Leu Thr Thr Cys Glu  
275 280 285  
Pro Pro Arg Pro Ser Leu Gly Lys Arg Ile Asp Leu Ser Asp Tyr Gln  
290 295 300  
Asp Pro Ser Gln Pro Leu Glu Ser Ser Met Val Val Thr Pro Val Asn  
305 310 315 320  
Val Ile Gln Pro Ser Thr Val Ser Thr Asn Pro Ala Val Ala Val Ala  
325 330 335  
Glu Pro Val Val Ser Tyr Thr Ser Val Ala Thr Thr Ser Phe Pro Leu  
340 345 350  
His Ser Pro Gly Leu Leu Glu Thr Gly Ala Pro Val Gly Asp Ile Ser  
355 360 365  
Gly Gly Asp Lys Ser Lys Lys Gly Val Lys Arg Lys Lys Ile Ser Glu  
370 375 380  
Glu Ser Gly Glu Thr Ala Lys Arg Arg Ser Ala Arg Val Arg Asn Thr  
385 390 395 400  
Lys Cys Lys Lys Glu Glu Lys Val Asp Phe Gln Glu Leu Leu Met Lys  
405 410 415  
Phe Leu Pro Ser Arg Leu Arg Lys Leu Asp Pro Glu Glu Glu Asp Asp

420 425 430  
 Ser Phe Asn Asn Tyr Glu Val Gln Ser Glu Ala Lys Leu Glu Ser Phe  
 435 440 445  
 Pro Ser Ile Gly Pro Gln Arg Leu Ser Phe Asp Ser Ala Thr Phe Met  
 450 455 460  
 Glu Ser Glu Lys Gln Asp Val His Glu Phe Leu Leu Glu Asn Leu Thr  
 465 470 475 480  
 Asn Gly Gly Ile Leu Glu Leu Met Met Arg Tyr Leu Lys Ala Met Gly  
 485 490 495  
 His Lys Phe Leu Val Arg Trp Pro Pro Gly Leu Ala Glu Val Val Leu  
 500 505 510  
 Ser Val Tyr His Ser Trp Arg Arg His Ser Thr Ser Leu Pro Asn Pro  
 515 520 525  
 Leu Leu Arg Asp Cys Ser Asn Lys His Ile Lys Asp Met Met Leu Met  
 530 535 540  
 Ser Leu Ser Cys Met Glu Leu Gln Leu Asp Gln Trp Leu Leu Thr Lys  
 545 550 555 560  
 Gly Arg Ser Ser Ala Val Ser Pro Arg Asn Cys Pro Ala Gly Met Val  
 565 570 575  
 Asn Gly Arg Phe Gly Pro Asp Phe Pro Gly Thr His Cys Leu Gly Asp  
 580 585 590  
 Leu Leu Gln Leu Ser Phe Ala Ser Ser Gln Arg Asp Leu Phe Glu Asp  
 595 600 605  
 Gly Trp Leu Glu Phe Val Val Arg Val Tyr Trp Leu Lys Ala Arg Phe  
 610 615 620  
 Leu Ala Leu Gln Gly Asp Met Glu Gln Ala Leu Glu Asn Tyr Asp Ile  
 625 630 635 640  
 Cys Thr Glu Met Leu Gln Ser Ser Thr Ala Ile Gln Val Glu Ala Gly  
 645 650 655  
 Ala Glu Arg Arg Asp Ile Val Ile Arg Leu Pro Asn Leu His Asn Asp  
 660 665 670  
 Ser Val Val Ser Leu Glu Glu Ile Asp Lys Asn Leu Lys Ser Leu Glu  
 675 680 685  
 Arg Cys Gln Ser Leu Glu Glu Ile Gln Arg Leu Tyr Glu Ala Gly Asp  
 690 695 700  
 Tyr Lys Ala Val Val His Leu Leu Arg Pro Thr Leu Cys Thr Ser Gly  
 705 710 715 720  
 Phe Asp Arg Ala Lys His Leu Glu Phe Met Thr Ser Ile Pro Glu Arg  
 725 730 735  
 Pro Ala Gln Leu Leu Leu Leu Gln Asp Ser Leu Leu Arg Leu Lys Asp  
 740 745 750  
 Tyr Arg Gln Cys Phe Glu Cys Ser Asp Val Ala Leu Asn Glu Ala Val  
 755 760 765  
 Gln Gln Met Val Asn Ser Gly Glu Ala Ala Ala Lys Glu Glu Trp Val  
 770 775 780  
 Ala Thr Val Thr Gln Leu Leu Met Gly Ile Glu Gln Ala Leu Ser Ala  
 785 790 795 800  
 Asp Ser Ser Gly Ser Ile Leu Lys Val Ser Ser Ser Thr Thr Gly Leu  
 805 810 815  
 Val Arg Leu Thr Asn Asn Leu Ile Gln Val Ile Asp Cys Ser Met Ala  
 820 825 830  
 Val Gln Glu Glu Ala Lys Glu Pro His Val Ser Ser Val Leu Pro Trp  
 835 840 845  
 Ile Ile Leu His Arg Ile Ile Trp Gln Glu Glu Asp Thr Phe His Ser

850	855	860
Leu Cys His Gln Gln Gln	Leu Gln Asn Pro Ala	Glu Glu Gly Met Ser
865	870	875
Glu Thr Pro Met Leu Pro	Ser Ser Leu Met Leu	Leu Asn Thr Ala His
885	890	895
Glu Tyr Leu Gly Arg Arg	Ser Trp Cys Cys Asn	Ser Asp Gly Ala Leu
900	905	910
Leu Arg Phe Tyr Val Arg	Val Leu Gln Lys Glu	Leu Ala Ala Ser Thr
915	920	925
Ser Glu Asp Thr His Pro	Tyr Lys Glu Glu Leu	Glu Thr Ala Leu Glu
930	935	940
Gln Cys Phe Tyr Cys Leu	Tyr Ser Phe Pro Ser	Lys Lys Ser Lys Ala
945	950	955
Arg Tyr Leu Glu Glu His	Ser Ala Gln Gln Val	Asp Leu Ile Trp Glu
965	970	975
Asp Ala Leu Phe Met Phe	Glu Tyr Phe Lys Pro	Lys Thr Leu Pro Glu
980	985	990
Phe Asp Ser Tyr Lys Thr	Ser Thr Val Ser Ala	Asp Leu Ala Asn Leu
995	1000	1005
Leu Lys Arg Ile Ala Thr	Ile Val Pro Arg Thr	Glu Arg Pro Ala Leu
1010	1015	1020
Ser Leu Asp Lys Val Ser	Ala Tyr Ile Glu Gly	Thr Ser Thr Glu Val
1025	1030	1035
Pro Cys Leu Pro Glu Gly	Ala Asp Pro Ser Pro	Pro Val Val Asn Glu
1045	1050	1055
Leu Tyr Tyr Leu Leu Ala	Asp Tyr His Phe Lys	Asn Lys Glu Gln Ser
1060	1065	1070
Lys Ala Ile Lys Phe Tyr	Met His Asp Ile Cys	Ile Cys Pro Asn Arg
1075	1080	1085
Phe Asp Ser Trp Ala Gly	Met Ala Leu Ala Arg	Ala Ser Arg Ile Gln
1090	1095	1100
Asp Lys Leu Asn Ser Asn	Glu Leu Lys Ser Asp	Gly Pro Ile Trp Lys
1105	1110	1115
His Ala Thr Pro Val Leu	Asn Cys Phe Arg Arg	Ala Leu Glu Ile Asp
1125	1130	1135
Ser Ser Asn Leu Ser Leu	Trp Ile Glu Tyr Gly	Thr Met Ser Tyr Ala
1140	1145	1150
Leu His Ser Phe Ala Ser	Arg Gln Leu Lys Gln	Trp Arg Gly Glu Leu
1155	1160	1165
Pro Pro Glu Leu Val Gln	Gln Met Glu Gly Arg	Arg Asp Ser Met Leu
1170	1175	1180
Glu Thr Ala Lys His Cys	Phe Thr Ser Ala Ala	Arg Cys Glu Gly Asp
1185	1190	1195
Gly Asp Glu Glu Glu Trp	Leu Ile His Tyr Met	Leu Gly Lys Val Ala
1205	1210	1215
Glu Lys Gln Gln Gln Pro	Pro Thr Val Tyr Leu	Leu His Tyr Arg Gln
1220	1225	1230
Ala Gly His Tyr Leu His	Glu Glu Ala Ala Arg	Tyr Pro Lys Lys Ile
1235	1240	1245
His Tyr His Asn Pro Pro	Glu Leu Ala Met Glu	Ala Leu Glu Val Tyr
1250	1255	1260
Phe Arg Leu His Ala Ser	Ile Leu Lys Leu Leu	Gly Lys Pro Asp Ser
1265	1270	1275
Gly Val Gly Ala Glu Val	Leu Val Asn Phe Met	Lys Glu Ala Ala Glu

1285 1290 1295  
 Gly Pro Phe Ala Arg Gly Glu Glu Lys Asn Thr Pro Lys Ala Ser Glu  
 1300 1305 1310  
 Lys Glu Lys Ala Cys Leu Val Asp Glu Asp Ser His Ser Ser Ala Gly  
 1315 1320 1325  
 Thr Leu Pro Gly Pro Gly Ala Ser Leu Pro Ser Ser Gly Pro Gly  
 1330 1335 1340  
 Leu Thr Ser Pro Pro Tyr Thr Ala Thr Pro Ile Asp His Asp Tyr Val  
 1345 1350 1355 1360  
 Lys Cys Lys Lys Pro His Gln Gln Ala Thr Pro Asp Asp Arg Ser Gln  
 1365 1370 1375  
 Asp Ser Thr Ala Val Ala Leu Ser Asp Ser Ser Ser Thr Gln Asp Phe  
 1380 1385 1390  
 Phe Asn Glu Pro Thr Ser Leu Leu Glu Gly Ser Arg Lys Ser Tyr Thr  
 1395 1400 1405  
 Glu Lys Arg Leu Pro Ile Leu Ser Ser Gln Ala Gly Ala Thr Gly Lys  
 1410 1415 1420  
 Asp Leu Gln Gly Ala Thr Glu Glu Arg Gly Lys Asn Glu Glu Ser Leu  
 1425 1430 1435 1440  
 Glu Ser Thr Glu Gly Phe Arg Ala Ala Glu Gln Gly Val Gln Lys Pro  
 1445 1450 1455  
 Ala Ala Glu Thr Pro Ala Ser Ala Cys Ile Pro Gly Lys Pro Ser Ala  
 1460 1465 1470  
 Ser Thr Pro Thr Leu Trp Asp Gly Lys Lys Arg Gly Asp Leu Pro Gly  
 1475 1480 1485  
 Glu Pro Val Ala Phe Pro Gln Gly Leu Pro Ala Gly Ala Glu Glu Gln  
 1490 1495 1500  
 Arg Gln Phe Leu Thr Glu Gln Cys Ile Ala Ser Phe Arg Leu Cys Leu  
 1505 1510 1515 1520  
 Ser Arg Phe Pro Gln His Tyr Lys Ser Leu Tyr Arg Leu Ala Phe Leu  
 1525 1530 1535  
 Tyr Thr Tyr Ser Lys Thr His Arg Asn Leu Gln Trp Ala Arg Asp Val  
 1540 1545 1550  
 Leu Leu Gly Ser Ser Ile Pro Trp Gln Gln Leu Gln His Met Pro Ala  
 1555 1560 1565  
 Gln Gly Leu Phe Cys Glu Arg Asn Lys Thr Asn Phe Phe Asn Gly Ile  
 1570 1575 1580  
 Trp Arg Ile Pro Val Asp Glu Ile Asp Arg Pro Gly Ser Phe Ala Trp  
 1585 1590 1595 1600  
 His Met Asn Arg Ser Ile Val Leu Leu Leu Lys Val Leu Ala Gln Leu  
 1605 1610 1615  
 Arg Asp His Ser Thr Leu Leu Lys Val Ser Ser Met Leu Gln Arg Thr  
 1620 1625 1630  
 Pro Asp Gln Gly Lys Lys Tyr Leu Arg Asp Ala Asp Arg Gln Val Leu  
 1635 1640 1645  
 Ala Gln Arg Ala Phe Ile Leu Thr Val Lys Val Leu Glu Asp Thr Leu  
 1650 1655 1660  
 Ser Glu Leu Ala Glu Gly Ser Glu Arg Pro Gly Pro Lys Val Cys Gly  
 1665 1670 1675 1680  
 Leu Pro Gly Ala Arg Met Thr Thr Asp Val Ser His Lys Ala Ser Pro  
 1685 1690 1695  
 Glu Asp Gly Gln Glu Gly Leu Pro Gln Pro Lys Lys Pro Pro Leu Ala  
 1700 1705 1710  
 Asp Gly Ser Gly Pro Gly Pro Glu Pro Gly Gly Lys Val Gly Leu Leu

1715	1720	1725
Asn His Arg Pro Val Ala Met Asp Ala Gly Asp Ser Ala Asp Gln Ser		
1730	1735	1740
Gly Glu Arg Lys Asp Lys Glu Ser Pro Arg Ala Gly Pro Thr Glu Pro		
1745	1750	1755
Met Asp Thr Ser Glu Ala Thr Val Cys His Ser Asp Leu Glu Arg Thr		1760
1765	1770	1775
Pro Pro Leu Leu Pro Gly Arg Pro Ala Arg Asp Arg Gly Pro Glu Ser		
1780	1785	1790
Arg Pro Thr Glu Leu Ser Leu Glu Glu Leu Ser Ile Ser Ala Arg Gln		
1795	1800	1805
Gln Pro Thr Pro Leu Thr Pro Ala Gln Pro Ala Pro Ala Pro Ala Pro		
1810	1815	1820
Ala Thr Thr Thr Gly Thr Arg Ala Gly Gly His Pro Glu Glu Pro Leu		
1825	1830	1835
Ser Arg Leu Ser Arg Lys Arg Lys Leu Leu Glu Asp Thr Glu Ser Gly		1840
1845	1850	1855
Lys Thr Leu Leu Leu Asp Ala Tyr Arg Val Trp Gln Gln Gly Gln Lys		
1860	1865	1870
Gly Val Ala Tyr Asp Leu Gly Arg Val Glu Arg Ile Met Ser Glu Thr		
1875	1880	1885
Tyr Met Leu Ile Lys Gln Val Asp Glu Glu Ala Ala Leu Glu Gln Ala		
1890	1895	1900
Val Lys Phe Cys Gln Val His Leu Gly Ala Ala Ala Gln Arg Gln Ala		
1905	1910	1915
Ser Gly Asp Thr Pro Thr Thr Pro Lys His Pro Lys Asp Ser Arg Glu		1920
1925	1930	1935
Asn Phe Phe Pro Val Thr Val Val Pro Thr Ala Pro Asp Pro Val Pro		
1940	1945	1950
Ala Asp Ser Val Gln Arg Pro Ser Asp Ala His Thr Lys Pro Arg Pro		
1955	1960	1965
Ala Leu Ala Ala Ala Thr Thr Ile Ile Thr Cys Pro Pro Ser Ala Ser		
1970	1975	1980
Ala Ser Thr Leu Asp Gln Ser Lys Asp Pro Gly Pro Pro Arg Pro His		
1985	1990	1995
Arg Pro Glu Ala Thr Pro Ser Met Ala Ser Leu Gly Pro Glu Gly Glu		
2005	2010	2015
Glu Leu Ala Arg Val Ala Glu Gly Thr Ser Phe Pro Pro Gln Glu Pro		
2020	2025	2030
Arg His Ser Pro Gln Val Lys Met Ala Pro Thr Ser Ser Pro Ala Glu		
2035	2040	2045
Pro His Cys Trp Pro Ala Glu Ala Ala Leu Gly Thr Gly Ala Glu Pro		
2050	2055	2060
Thr Cys Ser Gln Glu Gly Lys Leu Arg Pro Glu Pro Arg Arg Asp Gly		
2065	2070	2075
Glu Ala Gln Glu Ala Ala Ser Glu Thr Gln Pro Leu Ser Ser Pro Pro		
2085	2090	2095
Thr Ala Ala Ser Ser Lys Ala Pro Ser Ser Gly Ser Ala Gln Pro Pro		
2100	2105	2110
Glu Gly His Pro Gly Lys Pro Glu Pro Ser Arg Ala Lys Ser Arg Pro		
2115	2120	2125
Leu Pro Asn Met Pro Lys Leu Val Ile Pro Ser Ala Ala Thr Lys Phe		
2130	2135	2140
Pro Pro Glu Ile Thr Val Thr Pro Pro Thr Pro Thr Leu Leu Ser Pro		



2145	2150	2155	2160
Lys Gly Ser Ile Ser Glu Glu Thr Lys Gln Lys Leu Lys Ser Ala Ile			
	2165	2170	2175
Leu Ser Ala Gln Ser Ala Ala Asn Val Arg Lys Glu Ser Leu Cys Gln			
	2180	2185	2190
Pro Ala Leu Glu Val Leu Glu Thr Ser Ser Gln Glu Ser Ser Leu Glu			
	2195	2200	2205
Ser Glu Thr Asp Glu Asp Asp Asp Tyr Met Asp Ile			
2210	2215	2220	

&lt;210&gt; 3999

&lt;211&gt; 2546

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3999

```

ncctaggtga aatgtgtcat ttaaaaaaaaa tttcacttgc cattctaaag tttttctggt
60
gagagttttg tgtttttcat ttacgcaaac acatctccac ataagtaggg aaaaaaagtc
120
ttcttgagta tattagtgtc ttcagccttt gtattgggac agtagcgtcc attaatTTTT
180
atgtgaagtg aaattaggta tcgggtcata atcagtctgt gatgtcttca cagctttcac
240
atttaccttg tgataatcaa gtgtgttttt cctcaggtgt tagccagaga agaggggtca
300
gggactcttc cctggtcgta gctttcatct gtaagcttca cttaaagaga ggaaacttac
360
ttggtgctca aagcaaagga gatgggcctc ccagttggga cagctgccat cgctcccatc
420
attgctgctg tcaaggacgg gaaaagcatc actcatgaag gaagagagat tttggctgaa
480
gagctgtgta ctctccaga tcttggtgct gcttttgtgg tggtagaatg tccagatgaa
540
agcttcattc aacctctg tgagaatgcc acctttcaga ggtaccaagg aaaggcagat
600
gccccgtgg ccttggtggt tcacatggcc ccagcatctg tgcttgtgga cagcaggtac
660
cagcagtgga tggagagggt tgggcctgac accagcact tggtcctgaa tgagaactgt
720
gcctcagttc acaaccttcg cagccacaag attcaaacc agctcaacct catccaccg
780
gacatcttcc ccctgtcac cagtttccgc tgtaagaagg agggccccc cctcagtgtg
840
cccatggttc agggatgaatg cctcctcaag taccagctcc gtcccaggag ggagtggcag
900
agggatgcca ttattacttg caatcctgag gaattcatag ttgaggcgt gcagcttccc
960
aacttcagc agagcgtgca ggagtacagg aggagtgcgc aggacggccc agccccagca
1020
gagaaaagaa gtcagtaccc agaaatcatc ttccttgga cagggctctgc catcccgatg
1080
aagattcgaa atgtcagtgc cacacttgtc aacataagcc ccgacacgtc tctgctactg
1140

```

gactgtggtg agggcacatt tgggcagctg tgccgtcatt acggagacca ggtggacagg  
1200  
gtcctgggca ccctggctgc tgtgtttgtg tcccacctgc acgcagatca ccacacgggc  
1260  
ttgccaagta tcttgctgca gagagaacgc gccttggcat ctttgggaaa gccgcttcac  
1320  
cctttgctgg tggttgcccc caaccagctc aaagcctggc tccagcagta ccacaaccag  
1380  
tgccaggagg tcctgcacca catcagtatg attcctgcc aatgccttca ggaaggggct  
1440  
gagatctcca gtcctgcagt ggaaagattg atcagttcgc tgttgcgaa atgtgatttg  
1500  
gaagagtttc agacctgtct ggtgcggcac tgcaagcatg cgtttggctg tgcgctgggt  
1560  
cacacctctg gctggaaagt ggtctattcc ggggacacca tgccctgcga ggctctggtc  
1620  
cggatgggga aagatgccac cctcctgata catgaagcca ccctggaaga tggtttggaa  
1680  
gaggaagcag tggaaaagac acacagcaca acgtccaag ccatcagcgt ggggatgcgg  
1740  
atgaacgcgg agttcattat gctgaaccac ttcagccagc gctatgccaa ggtccccctc  
1800  
ttcagcccca acttcagcga gaaagtggga gttgcctttg accacatgaa ggtctgcttt  
1860  
ggagactttc caacaatgcc caagctgatt cccccactg aaagccctgt ttgctggcga  
1920  
catcaggagg atggaggagc gcaggagaga gcgggagctg cggcagggtgc gggcgccct  
1980  
cctgtccagg gagctggcag gcggcctgga ggatggggag cctcagcaga agcgggcccc  
2040  
cacagaggag ccacaggcca agaaggtcag agcccagtga agatctggga gacctgaac  
2100  
tcagaaggct gtgtgtcttc tgccccacgc acgcaccgt atctgcctc cttgctggta  
2160  
gaagctgaag agcacggctc ccaggaggc agctcaggat aggtggtatg gagctgtgcc  
2220  
gaggcttggg ctcccacata agcactagtc tatagatgcc tcttaggact ggtgcctggc  
2280  
acagccgcgg gccaggaggc tgccacacgg aagcaagcag atgaactaat ttcatttcaa  
2340  
ggcagttttt aaagaagtca tggaaacaga cggcggcacc ttctctctaa tccagcaaaa  
2400  
tgattccctg cacaccagag acaagcagag taacaggatc agtgggtcta agtgtccgag  
2460  
acttaacgaa aatagtattt cagctgcaat aaagattgag tttgcaaaaa aaaaaaaaaa  
2520  
aaaaaaaaaa aaaaaaaaaa aaaaaa  
2546

&lt;210&gt; 4000

&lt;211&gt; 606

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4000

```

Met Gly Leu Pro Val Gly Thr Ala Ala Ile Ala Pro Ile Ile Ala Ala
 1           5           10           15
Val Lys Asp Gly Lys Ser Ile Thr His Glu Gly Arg Glu Ile Leu Ala
 20           25           30
Glu Glu Leu Cys Thr Pro Pro Asp Pro Gly Ala Ala Phe Val Val Val
 35           40           45
Glu Cys Pro Asp Glu Ser Phe Ile Gln Pro Ile Cys Glu Asn Ala Thr
 50           55           60
Phe Gln Arg Tyr Gln Gly Lys Ala Asp Ala Pro Val Ala Leu Val Val
 65           70           75           80
His Met Ala Pro Ala Ser Val Leu Val Asp Ser Arg Tyr Gln Gln Trp
 85           90           95
Met Glu Arg Phe Gly Pro Asp Thr Gln His Leu Val Leu Asn Glu Asn
100           105           110
Cys Ala Ser Val His Asn Leu Arg Ser His Lys Ile Gln Thr Gln Leu
115           120           125
Asn Leu Ile His Pro Asp Ile Phe Pro Leu Leu Thr Ser Phe Arg Cys
130           135           140
Lys Lys Glu Gly Pro Thr Leu Ser Val Pro Met Val Gln Gly Glu Cys
145           150           155           160
Leu Leu Lys Tyr Gln Leu Arg Pro Arg Arg Glu Trp Gln Arg Asp Ala
165           170           175
Ile Ile Thr Cys Asn Pro Glu Glu Phe Ile Val Glu Ala Leu Gln Leu
180           185           190
Pro Asn Phe Gln Gln Ser Val Gln Glu Tyr Arg Arg Ser Ala Gln Asp
195           200           205
Gly Pro Ala Pro Ala Glu Lys Arg Ser Gln Tyr Pro Glu Ile Ile Phe
210           215           220
Leu Gly Thr Gly Ser Ala Ile Pro Met Lys Ile Arg Asn Val Ser Ala
225           230           235           240
Thr Leu Val Asn Ile Ser Pro Asp Thr Ser Leu Leu Leu Asp Cys Gly
245           250           255
Glu Gly Thr Phe Gly Gln Leu Cys Arg His Tyr Gly Asp Gln Val Asp
260           265           270
Arg Val Leu Gly Thr Leu Ala Ala Val Phe Val Ser His Leu His Ala
275           280           285
Asp His His Thr Gly Leu Pro Ser Ile Leu Leu Gln Arg Glu Arg Ala
290           295           300
Leu Ala Ser Leu Gly Lys Pro Leu His Pro Leu Leu Val Val Ala Pro
305           310           315           320
Asn Gln Leu Lys Ala Trp Leu Gln Gln Tyr His Asn Gln Cys Gln Glu
325           330           335
Val Leu His His Ile Ser Met Ile Pro Ala Lys Cys Leu Gln Glu Gly
340           345           350
Ala Glu Ile Ser Ser Pro Ala Val Glu Arg Leu Ile Ser Ser Leu Leu
355           360           365
Arg Thr Cys Asp Leu Glu Glu Phe Gln Thr Cys Leu Val Arg His Cys
370           375           380
Lys His Ala Phe Gly Cys Ala Leu Val His Thr Ser Gly Trp Lys Val
385           390           395           400
Val Tyr Ser Gly Asp Thr Met Pro Cys Glu Ala Leu Val Arg Met Gly
405           410           415
Lys Asp Ala Thr Leu Leu Ile His Glu Ala Thr Leu Glu Asp Gly Leu

```

	420		425		430										
Glu	Glu	Glu	Ala	Val	Glu	Lys	Thr	His	Ser	Thr	Thr	Ser	Gln	Ala	Ile
	435						440					445			
Ser	Val	Gly	Met	Arg	Met	Asn	Ala	Glu	Phe	Ile	Met	Leu	Asn	His	Phe
	450					455					460				
Ser	Gln	Arg	Tyr	Ala	Lys	Val	Pro	Leu	Phe	Ser	Pro	Asn	Phe	Ser	Glu
465					470					475					480
Lys	Val	Gly	Val	Ala	Phe	Asp	His	Met	Lys	Val	Cys	Phe	Gly	Asp	Phe
			485						490					495	
Pro	Thr	Met	Pro	Lys	Leu	Ile	Pro	Pro	Thr	Glu	Ser	Pro	Val	Cys	Trp
		500					505						510		
Arg	His	Arg	Gly	Asp	Gly	Gly	Ala	Gln	Gly	Glu	Ala	Gly	Ala	Ala	Ala
	515						520					525			
Gly	Ala	Gly	Gly	Pro	Pro	Val	Gln	Gly	Ala	Gly	Arg	Arg	Pro	Gly	Gly
	530					535					540				
Trp	Gly	Ala	Ser	Ala	Glu	Ala	Gly	Pro	His	Arg	Gly	Ala	Thr	Gly	Gln
545					550					555					560
Glu	Gly	Gln	Ser	Pro	Val	Lys	Ile	Trp	Glu	Thr	Leu	Asn	Ser	Glu	Gly
			565					570					575		
Cys	Val	Ser	Ser	Ala	Pro	Arg	Thr	His	Pro	Tyr	Leu	Pro	Ser	Leu	Leu
		580						585					590		
Val	Glu	Ala	Glu	Glu	His	Gly	Pro	Pro	Gly	Gly	Ser	Ser	Gly		
	595						600						605		

&lt;210&gt; 4001

&lt;211&gt; 1251

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4001

gaaagccctg cttctcaggc tgggactcag caccctcctg ccagcccac tgccattcc  
 60  
 cagagctctc cagagttcaa gggtccctg gcctccctct cagacagctt gggggtgtct  
 120  
 gtcattggcca ccgaccagga ctctactcc accagcagca cggaggagga gctggagcag  
 180  
 ttcagcagcc ccagcgtgaa gaagaagccc tccatgatcc tgggcaaggc tcggcaccgg  
 240  
 ctgagctttg ccagtttcag cagcatgttc cacgctttcc tctccaacaa ccgcaagctg  
 300  
 tacaagaagg tggtaggagct ggcgcaggac aagggtcgt actttggcag cctggtgcag  
 360  
 gactacaagg tgtacagcct ggagatgatg gcgcgccaga cctccagcac ggagatgctg  
 420  
 caggagattc gcacatgat gaccagctc aagagctacc tgctgcagag caccagctc  
 480  
 aaggccctgg tggacccgc cctgcactcc gaggaggagc tcgaagcaat tgtagagtct  
 540  
 gccttgtaga aatgtgtcct gaagccctg aaggaagcca tcaactcatg cctgcatcag  
 600  
 atccacagca aggatggttc gctgcagcag ctcaaggaga accagttagt gatcctggcc  
 660  
 accaccacca ctgacctagg tgtgaccacc agcgtgccgg aggtgcccat gatggagaag  
 720

atcctgcaga agttcaccag catgcacaag gcctactcac ctgagaagaa gatctccatc  
 780  
 ctgctcaaga cctgcaaact catctacgac tccatggccc tcggcaaccc agggaagccc  
 840  
 tatggggcgg atgacttcct gcctgtgctc atgtatgtgc tggcccgcag caacctcacg  
 900  
 gagatgcttc tcaatgtgga gtacatgatg gagctcatgg accccgccct gcagctgggg  
 960  
 gagggttcct actatctgac caccacctac ggggccctgg agcacatcaa gagctacgac  
 1020  
 aagatcacgg tgaccgggca gctgagtgtg gaggtgcagg actccatcca ccgctgggag  
 1080  
 cgccggcgta ctctcaacaa ggcccgggcc tcccgtcctt ccgtacagga cttcatctgc  
 1140  
 gtgtcgtacc tggagcccga gcagcaggcg cggacgctgg cgtcgcgggc ggacaccag  
 1200  
 gccaggcgc tgtgcgcgca gtgcgcggag aagttcgcgg tggagcggcc g  
 1251

&lt;210&gt; 4002

&lt;211&gt; 417

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4002

Glu Ser Pro Ala Ser Gln Ala Gly Thr Gln His Pro Pro Ala Gln Pro  
 1 5 10 15  
 Thr Ala His Ser Gln Ser Ser Pro Glu Phe Lys Gly Ser Leu Ala Ser  
 20 25 30  
 Leu Ser Asp Ser Leu Gly Val Ser Val Met Ala Thr Asp Gln Asp Ser  
 35 40 45  
 Tyr Ser Thr Ser Ser Thr Glu Glu Glu Leu Glu Gln Phe Ser Ser Pro  
 50 55 60  
 Ser Val Lys Lys Lys Pro Ser Met Ile Leu Gly Lys Ala Arg His Arg  
 65 70 75 80  
 Leu Ser Phe Ala Ser Phe Ser Ser Met Phe His Ala Phe Leu Ser Asn  
 85 90 95  
 Asn Arg Lys Leu Tyr Lys Lys Val Val Glu Leu Ala Gln Asp Lys Gly  
 100 105 110  
 Ser Tyr Phe Gly Ser Leu Val Gln Asp Tyr Lys Val Tyr Ser Leu Glu  
 115 120 125  
 Met Met Ala Arg Gln Thr Ser Ser Thr Glu Met Leu Gln Glu Ile Arg  
 130 135 140  
 Thr Met Met Thr Gln Leu Lys Ser Tyr Leu Leu Gln Ser Thr Glu Leu  
 145 150 155 160  
 Lys Ala Leu Val Asp Pro Ala Leu His Ser Glu Glu Glu Leu Glu Ala  
 165 170 175  
 Ile Val Glu Ser Ala Leu Tyr Lys Cys Val Leu Lys Pro Leu Lys Glu  
 180 185 190  
 Ala Ile Asn Ser Cys Leu His Gln Ile His Ser Lys Asp Gly Ser Leu  
 195 200 205  
 Gln Gln Leu Lys Glu Asn Gln Leu Val Ile Leu Ala Thr Thr Thr Thr  
 210 215 220  
 Asp Leu Gly Val Thr Thr Ser Val Pro Glu Val Pro Met Met Glu Lys

225                      230                      235                      240  
 Ile Leu Gln Lys Phe Thr Ser Met His Lys Ala Tyr Ser Pro Glu Lys  
                                  245                      250                      255  
 Lys Ile Ser Ile Leu Leu Lys Thr Cys Lys Leu Ile Tyr Asp Ser Met  
                                  260                      265                      270  
 Ala Leu Gly Asn Pro Gly Lys Pro Tyr Gly Ala Asp Asp Phe Leu Pro  
                                  275                      280                      285  
 Val Leu Met Tyr Val Leu Ala Arg Ser Asn Leu Thr Glu Met Leu Leu  
                                  290                      295                      300  
 Asn Val Glu Tyr Met Met Glu Leu Met Asp Pro Ala Leu Gln Leu Gly  
 305                                   310                                   315                                   320  
 Glu Gly Ser Tyr Tyr Leu Thr Thr Thr Tyr Gly Ala Leu Glu His Ile  
                                  325                                   330                                   335  
 Lys Ser Tyr Asp Lys Ile Thr Val Thr Arg Gln Leu Ser Val Glu Val  
                                  340                                   345                                   350  
 Gln Asp Ser Ile His Arg Trp Glu Arg Arg Arg Thr Leu Asn Lys Ala  
                                  355                                   360                                   365  
 Arg Ala Ser Arg Ser Ser Val Gln Asp Phe Ile Cys Val Ser Tyr Leu  
                                  370                                   375                                   380  
 Glu Pro Glu Gln Gln Ala Arg Thr Leu Ala Ser Arg Ala Asp Thr Gln  
 385                                   390                                   395                                   400  
 Ala Gln Ala Leu Cys Ala Gln Cys Ala Glu Lys Phe Ala Val Glu Arg  
                                  405                                   410                                   415  
 Pro

&lt;210&gt; 4003

&lt;211&gt; 581

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4003

ngcgggctcc gtcgcgggct gcgtggcgcc ttcctcatgg cgcgccagcg gccggagctg  
 60  
 ctctgcgggg ccggtggcgct cggctgcgcg ctgctcctcg cctcaagtt cacctgcagt  
 120  
 cgagcaaaag atgtgataat accagcaaag ccacctgtca gctttttctc cttgaggtct  
 180  
 ccagtccttg acctcttcca ggggcagctg gattatgcag agtacgttcg acgggattca  
 240  
 gaggtggtac tgctcttctt ctatgccctt tgggtgtggac agtccatcgc tgccagggca  
 300  
 gaaattgagc aagcagcaag tcggctttca gatcaggtgt tgtttgtggc aattaactgt  
 360  
 tgggtggaacc aggggaaatg cagaaaacag aaacacttct tttattttcc tgtaatatat  
 420  
 ctgtatcatc ggagttttgg accaatcgaa taciaaggcc cccatgagtg ctgtttacat  
 480  
 tgagaagttt gtccgcccgg tgatgaaacc acttctctac atcccatctc aatcagaatt  
 540  
 actagatttt ctctcaaact acgagcctgg agtactcgcg a  
 581

&lt;210&gt; 4004

<211> 160  
 <212> PRT  
 <213> Homo sapiens

<400> 4004

```

Xaa Arg Leu Arg Arg Gly Leu Arg Gly Ala Phe Leu Met Ala Arg Gln
 1           5           10           15
Arg Pro Glu Leu Leu Cys Gly Ala Val Ala Leu Gly Cys Ala Leu Leu
      20           25           30
Leu Ala Leu Lys Phe Thr Cys Ser Arg Ala Lys Asp Val Ile Ile Pro
      35           40           45
Ala Lys Pro Pro Val Ser Phe Phe Ser Leu Arg Ser Pro Val Leu Asp
      50           55           60
Leu Phe Gln Gly Gln Leu Asp Tyr Ala Glu Tyr Val Arg Arg Asp Ser
65           70           75           80
Glu Val Val Leu Leu Phe Phe Tyr Ala Pro Trp Cys Gly Gln Ser Ile
      85           90           95
Ala Ala Arg Ala Glu Ile Glu Gln Ala Ala Ser Arg Leu Ser Asp Gln
      100          105          110
Val Leu Phe Val Ala Ile Asn Cys Trp Trp Asn Gln Gly Lys Cys Arg
      115          120          125
Lys Gln Lys His Phe Phe Tyr Phe Pro Val Ile Tyr Leu Tyr His Arg
      130          135          140
Ser Phe Gly Pro Ile Glu Tyr Lys Gly Pro His Glu Cys Cys Leu His
145          150          155          160

```

<210> 4005  
 <211> 666  
 <212> DNA  
 <213> Homo sapiens

<400> 4005

```

ggtaccttgg aggatggtgc caagcagcac aatctaacag cagtcaatgt ccgaaacatc
60
cttcatgaag taatcacaaa tgaacacgtg gtagctatga tgaaagcagc catcagtgag
120
acggaagata tgccaatggt tgagcctaaa atgacacgct ctaaactgaa ggaagtagtg
180
gaaaaaggaa tggtaatcc aacatggaat atttcaccaa ttaagaaggc caatgaaatt
240
aagcctcctc agtttgtgga tatccacctt gaagaagatg attcctcaga tgaagaatac
300
cagccggatg atgaagaaga agatgaaact gctgaagaga gcttattgga aagtgatggt
360
gaaagcactg cttcatctcc acgtggggca aagaaatcca gattgaggca gtcttctgag
420
atgactgaaa cagatgagga gagtggcata ttatcagagg ctgagaaagt caccacacca
480
gccatcaggc acatcagtgc tgaggtagtg cccatggggc ccccgcccc tccaaagccg
540
aaacagacca gagatagtac tttcatggag aagttacatg cggtagatga ggagctggct
600
tccagtccag tctgcatgga ttctttccag cccatggatg acagtctcat tgcatttcga
660

```

acgcgt  
666

<210> 4006  
<211> 222  
<212> PRT  
<213> Homo sapiens

<400> 4006  
Gly Thr Leu Glu Asp Gly Ala Lys Gln His Asn Leu Thr Ala Val Asn  
1 5 10 15  
Val Arg Asn Ile Leu His Glu Val Ile Thr Asn Glu His Val Val Ala  
20 25 30  
Met Met Lys Ala Ala Ile Ser Glu Thr Glu Asp Met Pro Met Phe Glu  
35 40 45  
Pro Lys Met Thr Arg Ser Lys Leu Lys Glu Val Val Glu Lys Gly Met  
50 55 60  
Val Ile Pro Thr Trp Asn Ile Ser Pro Ile Lys Lys Ala Asn Glu Ile  
65 70 75 80  
Lys Pro Pro Gln Phe Val Asp Ile His Leu Glu Glu Asp Asp Ser Ser  
85 90 95  
Asp Glu Glu Tyr Gln Pro Asp Asp Glu Glu Glu Asp Glu Thr Ala Glu  
100 105 110  
Glu Ser Leu Leu Glu Ser Asp Val Glu Ser Thr Ala Ser Ser Pro Arg  
115 120 125  
Gly Ala Lys Lys Ser Arg Leu Arg Gln Ser Ser Glu Met Thr Glu Thr  
130 135 140  
Asp Glu Glu Ser Gly Ile Leu Ser Glu Ala Glu Lys Val Thr Thr Pro  
145 150 155 160  
Ala Ile Arg His Ile Ser Ala Glu Val Val Pro Met Gly Pro Pro Pro  
165 170 175  
Pro Pro Lys Pro Lys Gln Thr Arg Asp Ser Thr Phe Met Glu Lys Leu  
180 185 190  
His Ala Val Asp Glu Glu Leu Ala Ser Ser Pro Val Cys Met Asp Ser  
195 200 205  
Phe Gln Pro Met Asp Asp Ser Leu Ile Ala Phe Arg Thr Arg  
210 215 220

<210> 4007  
<211> 2313  
<212> DNA  
<213> Homo sapiens

<400> 4007  
ngaattcttc cttggttcg agtctctcag ccggccgcgc tctccgatgc ccagccctcc  
60  
tggaaccacc tcgcctgtga cgtaggtgga gcgcgcactg cctccgggcc cgtctttctc  
120  
aattgggacc ggaaaacgtt gtcgctcatc ctatgacgcg aaagtaaccg agactatcag  
180  
gatccggaga cggaatatgtc cgaaggccgc agtacttgac cctgtattttt gggagtcgaa  
240  
cggagaatgg aaactgaaag tggaaatcag gaaaaggtaa tggaagaaga aagcactgaa  
300



aagaaaaaag aagttgaaaa aaagaaacgg tcacgagtta aacagggtgct tgcagatatt  
360  
gctaagcaag tggacttctg gtttggggat gcaaactctc acaaggatag atttcttcga  
420  
gaacagatag aaaaatctag agatggatat gttgatatat cactacttgt gtcttttaac  
480  
aaaatgaaaa aattgactac tgatgggaag ttaattgcca gagcattgag aagttcagct  
540  
gttgtagagc ttgatttgga aggcaccaga atccggagga aaaaacctct gggggaaaga  
600  
ccaaaggatg aggatgaacg cacagtgtat gtggagttac ttcccaaaaa tgттаатсac  
660  
agctggattg aaagagtatt tgggaaatgt ggcaatgttg tttatataag tataccacat  
720  
tataagtcta ctggagatcc aaagggattt gcgtttgtgg aatttgaaac aaaagaacaa  
780  
gcagcaaaag caattgagtt tcttaacaac ccaccagaag aagcaccaag aaaacctggc  
840  
atatttccta aaacagtga aaataagccc attccagcct taagagttgt ggaagagaag  
900  
aaaaagaaaa agaagaagaa aggccgaatg aaaaaggaag acaatatcca agccaaagaa  
960  
gaaaacatgg acacaagcaa caccagcatc agtaaaatga aaagatccag acccacatct  
1020  
gagggtctctg acattgagtc cactgaaccc caaaagcagt gctcaaagaa aaagaaaaaa  
1080  
cgggacagag ttgaagcatc tagcttacct gaagtcagaa cagggaagag gaagagaagc  
1140  
agctctgaag atgcagaatc cctagctccc cgatcaaaag taaagaaaat tattcagaaa  
1200  
gacatcatta aggaagcatc agaagcttcc aaggaaaata gagatataga aatctctact  
1260  
gaagaggaaa aggatactgg agatctaaaa gatagctctc tcttgaaaac aaaaaggaaa  
1320  
cataagaaaa aacataaaga gagacataaa atgggagaag aagttatacc attaagagtg  
1380  
ctatcaaaga gcgaatggat ggatttgaaa aaagagtatt tagcgctaca aaaagctagc  
1440  
atggcttctt taacaaaaaac aatatcccaa ataaaatcag agtcagaaat ggaaacagac  
1500  
agtggagtac ctcaaacac tggaatgaaa aatgaaaaaa cagccaacag ggaagagtgt  
1560  
cgcacccagg agaaagttaa tgcaacagga ccacagttcg tgagtggagt gattgtgaag  
1620  
atcattagca cagagcctct acctggcagg aaacaagtcc gggatacttt ggcagcaatc  
1680  
tcagaagttc tttatgttga tttgctagaa ggggatacag aatgccatgc tagattttaa  
1740  
actcctgagg atgctcaagc agtaataaat gcctatacag aaattaacaa gaaacactgc  
1800  
tggaactc agatccttct tggatgacac gaacaaaggt attggcagaa gattttgggt  
1860  
gatagacagg caaaacttaa tcagcctcgg gaaaagaaaa gaggcactga aaagttaatc  
1920

accaaagctg aaaagattag actggcaaag actcaacaag cgagtaaaca tataagattt  
 1980  
 tctgaatatg attgaaaaaa aaaacagttc acctcttaat acttcacaag atacttgagc  
 2040  
 tgttcttggg agattcactt ttattatggg agcactgcat aattaatgtg tttttaatta  
 2100  
 aaagaaatat ctttgttctt taacttgtaa ataagacttt tttctagaga caaatatgat  
 2160  
 gtataccaca atttttctta aacattttat ttgttgaaat tatcttagat gtcagtgtca  
 2220  
 ggtgatttag taaataaatg tgttttgaac attaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2280  
 aaaaaaaaaa aaagaaaaaa aaaaaaaaaa aaa  
 2313

<210> 4008

<211> 290

<212> PRT

<213> Homo sapiens

<400> 4008

Gly	Lys	Arg	Lys	Arg	Ser	Ser	Ser	Glu	Asp	Ala	Glu	Ser	Leu	Ala	Pro
1			5					10					15		
Arg	Ser	Lys	Val	Lys	Lys	Ile	Ile	Gln	Lys	Asp	Ile	Ile	Lys	Glu	Ala
		20						25					30		
Ser	Glu	Ala	Ser	Lys	Glu	Asn	Arg	Asp	Ile	Glu	Ile	Ser	Thr	Glu	Glu
		35				40						45			
Glu	Lys	Asp	Thr	Gly	Asp	Leu	Lys	Asp	Ser	Ser	Leu	Leu	Lys	Thr	Lys
		50				55					60				
Arg	Lys	His	Lys	Lys	Lys	His	Lys	Glu	Arg	His	Lys	Met	Gly	Glu	Glu
65					70				75					80	
Val	Ile	Pro	Leu	Arg	Val	Leu	Ser	Lys	Ser	Glu	Trp	Met	Asp	Leu	Lys
				85				90						95	
Lys	Glu	Tyr	Leu	Ala	Leu	Gln	Lys	Ala	Ser	Met	Ala	Ser	Leu	Lys	Lys
			100					105					110		
Thr	Ile	Ser	Gln	Ile	Lys	Ser	Glu	Ser	Glu	Met	Glu	Thr	Asp	Ser	Gly
		115					120						125		
Val	Pro	Gln	Asn	Thr	Gly	Met	Lys	Asn	Glu	Lys	Thr	Ala	Asn	Arg	Glu
		130				135					140				
Glu	Cys	Arg	Thr	Gln	Glu	Lys	Val	Asn	Ala	Thr	Gly	Pro	Gln	Phe	Val
145					150				155					160	
Ser	Gly	Val	Ile	Val	Lys	Ile	Ile	Ser	Thr	Glu	Pro	Leu	Pro	Gly	Arg
				165					170					175	
Lys	Gln	Val	Arg	Asp	Thr	Leu	Ala	Ala	Ile	Ser	Glu	Val	Leu	Tyr	Val
			180					185					190		
Asp	Leu	Leu	Glu	Gly	Asp	Thr	Glu	Cys	His	Ala	Arg	Phe	Lys	Thr	Pro
		195					200					205			
Glu	Asp	Ala	Gln	Ala	Val	Ile	Asn	Ala	Tyr	Thr	Glu	Ile	Asn	Lys	Lys
		210				215					220				
His	Cys	Trp	Lys	Leu	Glu	Ile	Leu	Ser	Gly	Asp	His	Glu	Gln	Arg	Tyr
225					230				235					240	
Trp	Gln	Lys	Ile	Leu	Val	Asp	Arg	Gln	Ala	Lys	Leu	Asn	Gln	Pro	Arg
				245					250					255	
Glu	Lys	Lys	Arg	Gly	Thr	Glu	Lys	Leu	Ile	Thr	Lys	Ala	Glu	Lys	Ile

260 265 270  
 Arg Leu Ala Lys Thr Gln Gln Ala Ser Lys His Ile Arg Phe Ser Glu  
 275 280 285  
 Tyr Asp  
 290

<210> 4009  
 <211> 675  
 <212> DNA  
 <213> Homo sapiens

<400> 4009  
 nnagatcttt cgcttgccctt ttgtccttcc tcttctttgg aaaacatgtc tgtccaagat  
 60  
 ccagcatcat caccagtat acaagatggg ggtctaatagc aagcctctgt acccggtcct  
 120  
 tcagaagaac cagtagttta taatccaaca acagctgcct tcactctgtga ctcaactgtg  
 180  
 aatgaaaaaa ccataggcag tcctcctaata gagttttact gttctgaaaa cacttctgtc  
 240  
 cctaacgaat ctaacaagat tcttgtaata aaagatgtac ctcaaaaacc aggaggtgaa  
 300  
 accacacctt cagtaactga cttactaaat ttttttttgg ctccagagat tcttactggg  
 360  
 gataaccaat attattgtga aaactgtgcc tctctgcaaa atgctgagaa aactatgcaa  
 420  
 atcacggagg aacctgaata ccttattctt actctcctga gattttcata tgatcagaag  
 480  
 tatcatgtga gaaggaaaat tttagacaat gtatcactgc cactggtttt ggagttgcc  
 540  
 gttaaaagaa ttacttcttt ctcttcattg tcagaaagtt ggtctgtaga tgttgacttc  
 600  
 actgatctta gtgagaacct tgctaaaaaa ttaaagcctt cagggactga tgaagcttcc  
 660  
 tgcacaaaat tgggtg  
 675

<210> 4010  
 <211> 225  
 <212> PRT  
 <213> Homo sapiens

<400> 4010  
 Xaa Asp Leu Ser Leu Ala Phe Cys Pro Ser Ser Ser Leu Glu Asn Met  
 1 5 10 15  
 Ser Val Gln Asp Pro Ala Ser Ser Pro Ser Ile Gln Asp Gly Gly Leu  
 20 25 30  
 Met Gln Ala Ser Val Pro Gly Pro Ser Glu Glu Pro Val Val Tyr Asn  
 35 40 45  
 Pro Thr Thr Ala Ala Phe Ile Cys Asp Ser Leu Val Asn Glu Lys Thr  
 50 55 60  
 Ile Gly Ser Pro Pro Asn Glu Phe Tyr Cys Ser Glu Asn Thr Ser Val  
 65 70 75 80  
 Pro Asn Glu Ser Asn Lys Ile Leu Val Asn Lys Asp Val Pro Gln Lys

```
<210> 4011
<211> 1371
<212> DNA
<213> Homo sapiens
```

```

<400> 4011
ctgcaggacg tggttccgac agtcaagatg gcgggagcag ctaccacaggc ttccttggag
60
tcggcccccac ggatcatgcg gctggtggcc gaatgcagcc gctccagggc cggggcaggc
120
gagctgtggc tgccgcgatg gacagtggcc actcctgtgt tcatgccagt gggcacgcag
180
gccaccatga agggcatcac gaccgaacag ctggacgctc tgggttgccg catctgcctg
240
ggcaatacct accatctggg tctaaggccg ggacccgagc tgatccagaa agccaacggg
300
ctccacggct tcatgaattg gcctcataat ctgctaacgc tttgcggtgg ggtttccctt
360
gacagcggcg gtttccagat ggtgtcgctg gtgtctctgt ccgaggtgac ggaggagggc
420
gtccgcttcc gctcccccta cgacggcaat gagaccctgc tgagcccgga gaaatccgtg
480
cagatccaga atgcgctggg ctcgacatc atcatgcagc tggacgacgt ggtagcagt
540
actgtgactg ggccacgtgt ggaggaggcc atgtacaggt caatccgctg gctggaccgg
600
tgcattgcag cccatcagcg gccggacaag cagaacctct tcgccattat ccagggtggg
660
ctggacgcag atctccgggc cacctgcctt gaagagatga ccaagcgaga cgtgcctggc
720
ttcgccatcg ggggcctgag cgggggtgag agcaagtcgc agttctggcg gatggtggcg
780
ctgagcacct ctcggtgcc gaaggacaag ccccgatc tgatgggggt tggctatgcc
840

```

actgatctgg tagtctgcgt ggctcttggg tgtgacatgt tgcactgcgt cttccccaca  
 900  
 cggacagcgc gctttggctc tgccctgggtg cccactggga acctgcagtt gaggaagaag  
 960  
 gtgtttgaga aggacttcgg ccccatagac ccggagtgc cctgccccac gtgccaaaag  
 1020  
 cacagccgcg ccttcctgca cgcactgctg cacagtgaca acacggccgc gctgcaccac  
 1080  
 ctcacgggtcc acaacatcgc ctaccagctg cagctcatga gcgccgtccg caccagcatc  
 1140  
 gtggagaagc gcttcccggg cttcgtgcgg gacttcatgg gcgccatgta cggggatccc  
 1200  
 accctctgtc ccacctgggc gactgacgct ctggcctctg tgggaatcac actgggctga  
 1260  
 cctggcattg ggagagggag ggaggaagga agggagggag gggctggaag atactgaagg  
 1320  
 attccttttt gaaaggtttt ttttattgta aaaaaaaaaa aaaaaaaaaa a  
 1371

&lt;210&gt; 4012

&lt;211&gt; 419

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4012

Leu	Gln	Asp	Val	Val	Pro	Thr	Val	Lys	Met	Ala	Gly	Ala	Ala	Thr	Gln
1			5					10						15	
Ala	Ser	Leu	Glu	Ser	Ala	Pro	Arg	Ile	Met	Arg	Leu	Val	Ala	Glu	Cys
			20					25					30		
Ser	Arg	Ser	Arg	Ala	Arg	Ala	Gly	Glu	Leu	Trp	Leu	Pro	His	Gly	Thr
			35				40					45			
Val	Ala	Thr	Pro	Val	Phe	Met	Pro	Val	Gly	Thr	Gln	Ala	Thr	Met	Lys
			50			55					60				
Gly	Ile	Thr	Thr	Glu	Gln	Leu	Asp	Ala	Leu	Gly	Cys	Arg	Ile	Cys	Leu
65				70				75					80		
Gly	Asn	Thr	Tyr	His	Leu	Gly	Leu	Arg	Pro	Gly	Pro	Glu	Leu	Ile	Gln
				85				90					95		
Lys	Ala	Asn	Gly	Leu	His	Gly	Phe	Met	Asn	Trp	Pro	His	Asn	Leu	Leu
			100					105					110		
Thr	Leu	Cys	Gly	Gly	Val	Ser	Leu	Asp	Ser	Gly	Gly	Phe	Gln	Met	Val
			115				120					125			
Ser	Leu	Val	Ser	Leu	Ser	Glu	Val	Thr	Glu	Glu	Gly	Val	Arg	Phe	Arg
			130			135					140				
Ser	Pro	Tyr	Asp	Gly	Asn	Glu	Thr	Leu	Leu	Ser	Pro	Glu	Lys	Ser	Val
145					150					155				160	
Gln	Ile	Gln	Asn	Ala	Leu	Gly	Ser	Asp	Ile	Ile	Met	Gln	Leu	Asp	Asp
			165					170					175		
Val	Val	Ser	Ser	Thr	Val	Thr	Gly	Pro	Arg	Val	Glu	Glu	Ala	Met	Tyr
			180					185					190		
Arg	Ser	Ile	Arg	Trp	Leu	Asp	Arg	Cys	Ile	Ala	Ala	His	Gln	Arg	Pro
			195				200					205			
Asp	Lys	Gln	Asn	Leu	Phe	Ala	Ile	Ile	Gln	Gly	Gly	Leu	Asp	Ala	Asp
			210			215				220					
Leu	Arg	Ala	Thr	Cys	Leu	Glu	Glu	Met	Thr	Lys	Arg	Asp	Val	Pro	Gly

```
<210> 4013
<211> 1419
<212> DNA
<213> Homo sapiens
```

```

<400> 4013
nggatcccta tgggtgaata taaactcgac agcgagggca cccctgcga gtataaaacc
60
cccttcagga ggaacaccac gtggcaccgg gtgccactc ctgccctgca gccctctct
120
agagcttccc ccatccccgg cacgcccgcac cggctgccgt gccaacagct gctccagcag
180
gccagggctg ccattcctcg aagcacctcc ttcgaccgga agctgcccga tggcacgaga
240
agctcaccca gcaaccagtc atcctccagc gacctggac ccggcgggag cggacctgg
300
agaccacaag tgggctacga cgggtgccag tcccctctac tgctegaaca ccagggtca
360
ggccctttgg aatgtgacgg agccagggag agggaagaca ccatggaagc aagcaggcac
420
ccggaaacca aatggcatgg ccacacttcc aaagtcttgg gtctctataa agaaagagct
480
ctgcagaaaag atggaagttg caaagattcc cccaataagc tttctcacat tggggataaa
540
agttgtcca gtcactccag cagcaacacg ctctccagca acacctccag caacagtga
600
gacaagcact ttgggtctgg cgacctgatg gacccgaat tactggggct gacctacatc
660

```

aaaggggcct ccaccgacag tggcatcgac acggccccct gcatgcctgc caccatcctc  
 720  
 ggccctgtgc acctggcagg cagcaggtcc ctgatccaca gccggggcga gcagtgggct  
 780  
 gatgctgccg acgtctctgg gcctgacgac gagccagcca agttatattc tgtgcatggc  
 840  
 tacgcgtcca ccattctccg cggcagtgct gcggaaggca gcatggggcga tctcagtga  
 900  
 atatcctctc attccagtgg ttctcaccat tcaggaagcc cttcagctca ctgttcaaaa  
 960  
 agtagtgggt ctctggattc atccaaagtc tacatcgtgt ctacacagcag cggacaacag  
 1020  
 gttcccggtt ccattgtcaa gccctaccac agacaagggg cagtgaacaa atatgtcatc  
 1080  
 ggctggaaga aatcggaggg cagcccaccg cccgaggagc ctgaagtgaac tgaatgtccc  
 1140  
 gggatgtata gtgagttgga tgtcatgtcc acagcaactc agcatcagac agtgggtggga  
 1200  
 gatgctgttg cagagactca acatgttctg tctaaagaag attttctgaa attgatgctt  
 1260  
 cctgacagcc ccttagtgga ggagggggcga agaaagtgtt cgttctatgg gaacctgtct  
 1320  
 ccaaggaggt cgctttaccg cagcgtgtct gacgagagca tctgcagcaa caggagggggg  
 1380  
 tcctcctttg gcagttcccg gagttccgtg cttgaccag  
 1419

&lt;210&gt; 4014

&lt;211&gt; -473

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4014

Xaa	Ile	Pro	Met	Val	Glu	Tyr	Lys	Leu	Asp	Ser	Glu	Gly	Thr	Pro	Cys
1				5				10						15	
Glu	Tyr	Lys	Thr	Pro	Phe	Arg	Arg	Asn	Thr	Thr	Trp	His	Arg	Val	Pro
			20					25					30		
Thr	Pro	Ala	Leu	Gln	Pro	Leu	Ser	Arg	Ala	Ser	Pro	Ile	Pro	Gly	Thr
		35					40					45			
Pro	Asp	Arg	Leu	Pro	Cys	Gln	Gln	Leu	Leu	Gln	Gln	Ala	Gln	Ala	Ala
	50					55				60					
Ile	Pro	Arg	Ser	Thr	Ser	Phe	Asp	Arg	Lys	Leu	Pro	Asp	Gly	Thr	Arg
65					70				75					80	
Ser	Ser	Pro	Ser	Asn	Gln	Ser	Ser	Ser	Ser	Asp	Pro	Gly	Pro	Gly	Gly
			85					90					95		
Ser	Gly	Pro	Trp	Arg	Pro	Gln	Val	Gly	Tyr	Asp	Gly	Cys	Gln	Ser	Pro
		100						105					110		
Leu	Leu	Leu	Glu	His	Gln	Gly	Ser	Gly	Pro	Leu	Glu	Cys	Asp	Gly	Ala
		115				120						125			
Arg	Glu	Arg	Glu	Asp	Thr	Met	Glu	Ala	Ser	Arg	His	Pro	Glu	Thr	Lys
	130					135					140				
Trp	His	Gly	Pro	Pro	Ser	Lys	Val	Leu	Gly	Ser	Tyr	Lys	Glu	Arg	Ala
145					150					155				160	
Leu	Gln	Lys	Asp	Gly	Ser	Cys	Lys	Asp	Ser	Pro	Asn	Lys	Leu	Ser	His

```

      165      170      175
Ile Gly Asp Lys Ser Cys Ser Ser His Ser Ser Ser Asn Thr Leu Ser
      180      185      190
Ser Asn Thr Ser Ser Asn Ser Asp Asp Lys His Phe Gly Ser Gly Asp
      195      200      205
Leu Met Asp Pro Glu Leu Leu Gly Leu Thr Tyr Ile Lys Gly Ala Ser
      210      215      220
Thr Asp Ser Gly Ile Asp Thr Ala Pro Cys Met Pro Ala Thr Ile Leu
      225      230      235      240
Gly Pro Val His Leu Ala Gly Ser Arg Ser Leu Ile His Ser Arg Ala
      245      250      255
Glu Gln Trp Ala Asp Ala Ala Asp Val Ser Gly Pro Asp Asp Glu Pro
      260      265      270
Ala Lys Leu Tyr Ser Val His Gly Tyr Ala Ser Thr Ile Ser Ala Gly
      275      280      285
Ser Ala Ala Glu Gly Ser Met Gly Asp Leu Ser Glu Ile Ser Ser His
      290      295      300
Ser Ser Gly Ser His His Ser Gly Ser Pro Ser Ala His Cys Ser Lys
      305      310      315      320
Ser Ser Gly Ser Leu Asp Ser Ser Lys Val Tyr Ile Val Ser His Ser
      325      330      335
Ser Gly Gln Gln Val Pro Gly Ser Met Ser Lys Pro Tyr His Arg Gln
      340      345      350
Gly Ala Val Asn Lys Tyr Val Ile Gly Trp Lys Lys Ser Glu Gly Ser
      355      360      365
Pro Pro Pro Glu Glu Pro Glu Val Thr Glu Cys Pro Gly Met Tyr Ser
      370      375      380
Glu Leu Asp Val Met Ser Thr Ala Thr Gln His Gln Thr Val Val Gly
      385      390      395      400
Asp Ala Val Ala Glu Thr Gln His Val Leu Ser Lys Glu Asp Phe Leu
      405      410      415
Lys Leu Met Leu Pro Asp Ser Pro Leu Val Glu Glu Gly Arg Arg Lys
      420      425      430
Phe Ser Phe Tyr Gly Asn Leu Ser Pro Arg Arg Ser Leu Tyr Arg Thr
      435      440      445
Leu Ser Asp Glu Ser Ile Cys Ser Asn Arg Arg Gly Ser Ser Phe Gly
      450      455      460
Ser Ser Arg Ser Ser Val Leu Asp Gln
      465      470

```

&lt;210&gt; 4015

&lt;211&gt; 823

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4015

```

cgcttcgaga agcagaagta cctttccacg ccggacagaa tagatcttgc tgagtccttg
60
ggcctgagcc agttgcaggt gaagacgtgg taccagaatc ggaggatgaa gtggaagaaa
120
atagtgtctgc agggcggcgg cctggagtct cccaccaagc ccaaggggcg gcccaagaag
180
aactcaattc caacgagcga gcagcttact gagcaggagc gcgccaagga tgcagagaaa
240

```



cccgcggagg tgccgggcca gccacgcgac aggagccgcg aggactgagg gcggtatacg  
 300  
 gtgcggggcc tgggatgcc gcgccacccg cagccccctc actcggcgga aaccgcgag  
 360  
 ccggcccttc cgcgtccaag aagtttactt cctaagcctt ttattatgat cttgaatgcg  
 420  
 gacaatggg gccaaacgag gaaggacaca gacccaaaag ccagaccag gtcccagcgc  
 480  
 gcttctgggc tctaacctgg gagactcgca tccagcccgg cggaagctac agtctctacc  
 540  
 ctgagctccg tggcgagag cgctccacgc gtattcacgc cccgctcctc gctgcaccc  
 600  
 ccgccccgtc tggggcctgc cctcccggcc ggggagcctc caggcacaca cccgcttctg  
 660  
 gacgtcgggg acccagcggg tgggctcagc cacaacggcc tgagattgcc ccggggcaac  
 720  
 ccgtcggcat gcctggagge cgggtccccg atgtcgctgg ggcccctacc ccctcgtagc  
 780  
 aagacggtga ctttttttcc aataaaatat tttatgacac aaa  
 823

&lt;210&gt; 4016

&lt;211&gt; 95

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4016

Arg	Phe	Glu	Lys	Gln	Lys	Tyr	Leu	Ser	Thr	Pro	Asp	Arg	Ile	Asp	Leu
1			5						10					15	
Ala	Glu	Ser	Leu	Gly	Leu	Ser	Gln	Leu	Gln	Val	Lys	Thr	Trp	Tyr	Gln
			20					25					30		
Asn	Arg	Arg	Met	Lys	Trp	Lys	Lys	Ile	Val	Leu	Gln	Gly	Gly	Gly	Leu
		35				40						45			
Glu	Ser	Pro	Thr	Lys	Pro	Lys	Gly	Arg	Pro	Lys	Lys	Asn	Ser	Ile	Pro
		50				55					60				
Thr	Ser	Glu	Gln	Leu	Thr	Glu	Gln	Glu	Arg	Ala	Lys	Asp	Ala	Glu	Lys
65				70					75					80	
Pro	Ala	Glu	Val	Pro	Gly	Glu	Pro	Ser	Asp	Arg	Ser	Arg	Glu	Asp	
			85						90					95	

&lt;210&gt; 4017

&lt;211&gt; 1521

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4017

nnactagggg attaccatga tgcagtagca gccatgctgc cttttcttgc tggccaacgt  
 60  
 gggcaccgcc gccctcaata gcagcaaccc gaagactatt gctacagtgc ccggatccgc  
 120  
 agcaccgtcc tacaggcct gccctttggg ggcgtcccca ccgtgctggc cttggacttc  
 180  
 acgtgcttcc tcgcctgct gttcttattc tccatcctcc ggaaggtggc ctgggactat  
 240

gggcggctgg ccttggtgac agatgcagac aggccttcggc ggcaggagag ggaccgagtg  
 300  
 gaacaggaat atgtggcttc agctatgcac ggggacagcc atgaccggta tgagcgtctc  
 360  
 acctttgtct ccagctccgt tgactttgac caaagggaca atggtttctg ttcttggtg  
 420  
 acagccatct tcaggataaa ggacgatgag atccgggaca agtgtggggg cgacgctgtg  
 480  
 cactacctgt cctttcagcg gcacatcatc gggctgctgg tggttgtggg cgctctctcc  
 540  
 gtaggcacg tgctgcctgt caacttctca ggggacctgc tggagaacaa tgcctacagc  
 600  
 tttgggagaa ccaccattgc caacttgaac tcagggaaca acctgctatg gctgcacacc  
 660  
 tccttcgcct tcctgtatct gctgctcacc gtctacagca tgcgtagaca cacctccaag  
 720  
 atgcgctaca aggaggatga tctgggtgaag cggaccctct tcatcaatgg aatctccaaa  
 780  
 tatgcagagt cagaaaagat caagaagcat tttgaggaag cctaccccaa ctgcacagtt  
 840  
 ctgaagccc gcccggtgta caacgtggct cgcctaattg tcctcgatgc agagaggaag  
 900  
 aaggccgagc ggggaaagct gtacttcaca aacctccaga gcaaggagaa cgtgcctacc  
 960  
 atgatcaacc ccaagccctg tggccacttc tgctgctgtg tgggtgcgagg ctgtgagcag  
 1020  
 gtggaggcca ttgagtacta cacaagctg gagcagaagc tgaaggaaga ctacaagcgg  
 1080  
 gagaagggga aggtgaatga gaagcctctt ggcattggcct ttgtcacctt ccacaatgag  
 1140  
 actatcacg ccatcatcct gaaggacttc aacgtgtgta aatgccaggg ctgcacctgc  
 1200  
 cgtggggagc cagccccctc atcctgcagc gagtcccttc acatccccaa ctggaccggg  
 1260  
 tcctatgccc ctgacctca gaacatctac tgggagcacc tctccatccg aggcttcac  
 1320  
 tgggtggctgc gctgcctggt catcaatgtc gtcctcttca tcctcctctt cttectcacc  
 1380  
 actccagcca tcatcatcac caccatggac aagttcaacg tcaccaagcc tgtggagtac  
 1440  
 ctcaacaacc ccatcatcac ccagttcttc cccaccctgc tgctgtggtg cttctcgccc  
 1500  
 ctccttccca ccattggcta c  
 1521

&lt;210&gt; 4018

&lt;211&gt; 480

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4018

Gln Gln Pro Glu Asp Tyr Cys Tyr Ser Ala Arg Ile Arg Ser Thr Val  
 1 5 10 15  
 Leu Gln Gly Leu Pro Phe Gly Gly Val Pro Thr Val Leu Ala Leu Asp

20							25							30						
Phe	Thr	Cys	Phe	Leu	Ala	Leu	Leu	Phe	Leu	Phe	Ser	Ile	Leu	Arg	Lys					
35							40			45										
Val	Ala	Trp	Asp	Tyr	Gly	Arg	Leu	Ala	Leu	Val	Thr	Asp	Ala	Asp	Arg					
50			55				60													
Leu	Arg	Arg	Gln	Glu	Arg	Asp	Arg	Val	Glu	Gln	Glu	Tyr	Val	Ala	Ser					
65					70			75				80								
Ala	Met	His	Gly	Asp	Ser	His	Asp	Arg	Tyr	Glu	Arg	Leu	Thr	Phe	Val					
			85				90				95									
Ser	Ser	Ser	Val	Asp	Phe	Asp	Gln	Arg	Asp	Asn	Gly	Phe	Cys	Ser	Trp					
			100				105				110									
Leu	Thr	Ala	Ile	Phe	Arg	Ile	Lys	Asp	Asp	Glu	Ile	Arg	Asp	Lys	Cys					
115			120				125													
Gly	Gly	Asp	Ala	Val	His	Tyr	Leu	Ser	Phe	Gln	Arg	His	Ile	Ile	Gly					
130			135				140													
Leu	Leu	Val	Val	Val	Gly	Val	Leu	Ser	Val	Gly	Ile	Val	Leu	Pro	Val					
145					150			155				160								
Asn	Phe	Ser	Gly	Asp	Leu	Leu	Glu	Asn	Asn	Ala	Tyr	Ser	Phe	Gly	Arg					
			165				170				175									
Thr	Thr	Ile	Ala	Asn	Leu	Lys	Ser	Gly	Asn	Asn	Leu	Leu	Trp	Leu	His					
			180				185				190									
Thr	Ser	Phe	Ala	Phe	Leu	Tyr	Leu	Leu	Leu	Thr	Val	Tyr	Ser	Met	Arg					
195			200				205													
Arg	His	Thr	Ser	Lys	Met	Arg	Tyr	Lys	Glu	Asp	Asp	Leu	Val	Lys	Arg					
210			215				220													
Thr	Leu	Phe	Ile	Asn	Gly	Ile	Ser	Lys	Tyr	Ala	Glu	Ser	Glu	Lys	Ile					
225					230			235				240								
Lys	Lys	His	Phe	Glu	Glu	Ala	Tyr	Pro	Asn	Cys	Thr	Val	Leu	Glu	Ala					
			245				250				255									
Arg	Pro	Cys	Tyr	Asn	Val	Ala	Arg	Leu	Met	Phe	Leu	Asp	Ala	Glu	Arg					
			260				265				270									
Lys	Lys	Ala	Glu	Arg	Gly	Lys	Leu	Tyr	Phe	Thr	Asn	Leu	Gln	Ser	Lys					
275			280				285													
Glu	Asn	Val	Pro	Thr	Met	Ile	Asn	Pro	Lys	Pro	Cys	Gly	His	Phe	Cys					
290					295			300												
Cys	Cys	Val	Val	Arg	Gly	Cys	Glu	Gln	Val	Glu	Ala	Ile	Glu	Tyr	Tyr					
305					310			315				320								
Thr	Lys	Leu	Glu	Gln	Lys	Leu	Lys	Glu	Asp	Tyr	Lys	Arg	Glu	Lys	Gly					
			325				330				335									
Lys	Val	Asn	Glu	Lys	Pro	Leu	Gly	Met	Ala	Phe	Val	Thr	Phe	His	Asn					
340			345				350													
Glu	Thr	Ile	Thr	Ala	Ile	Ile	Leu	Lys	Asp	Phe	Asn	Val	Cys	Lys	Cys					
355			360				365													
Gln	Gly	Cys	Thr	Cys	Arg	Gly	Glu	Pro	Arg	Pro	Ser	Ser	Cys	Ser	Glu					
370			375				380													
Ser	Leu	His	Ile	Pro	Asn	Trp	Thr	Gly	Ser	Tyr	Ala	Pro	Asp	Pro	Gln					
385					390			395				400								
Asn	Ile	Tyr	Trp	Glu	His	Leu	Ser	Ile	Arg	Gly	Phe	Ile	Trp	Trp	Leu					
			405				410				415									
Arg	Cys	Leu	Val	Ile	Asn	Val	Val	Leu	Phe	Ile	Leu	Leu	Phe	Phe	Leu					
420			425				430													
Thr	Thr	Pro	Ala	Ile	Ile	Ile	Thr	Thr	Met	Asp	Lys	Phe	Asn	Val	Thr					
435			440				445													
Lys	Pro	Val	Glu	Tyr	Leu	Asn	Asn	Pro	Ile	Ile	Thr	Gln	Phe	Phe	Pro					

450                                      455                                      460  
 Thr Leu Leu Leu Trp Cys Phe Ser Ala Leu Leu Pro Thr Ile Gly Tyr  
 465                                      470                                      475                                      480

<210> 4019  
 <211> 2408  
 <212> DNA  
 <213> Homo sapiens

<400> 4019  
 cccgggggaa acgtcaccat cacttaaaga tatgctgggg ccagagcacc catgggccag  
 60  
 ggcttcctgc tctcctacag ccaagattgg ctgatgtgcc tacaggaaga gtttcagtgc  
 120  
 ctgaaccacc gctgtgtatc tgctgtccag cgctgtgatg gggttgatgc ctgtggcgat  
 180  
 ggctctgatg aagcagggtg cagctcagac cccttcctg gcctgacccc aagaccgctc  
 240  
 ccctccctgc cttgcaatgt caccttgag gacttctatg gggctctctc ctctcctgga  
 300  
 tatacacacc tagcctcagt ctcccacccc cagtcctgcc attggctgct ggacccccat  
 360  
 gatggccggc ggctggccgt gcgcttcaca gccccggact tgggctttgg agatgcagtg  
 420  
 catgtgtatg acggccctgg gcccctgag agtcccgac tactgcgtag tctcacccac  
 480  
 ttcagcaatg gcaaggctgt cactgtggag acactgtctg gccaggctgt tgtgtcctac  
 540  
 cacacagttg cttggagcaa tggctgtggc ttcaatgcca cctaccatgt gcggggctat  
 600  
 tgcttgccctt gggacagacc ctgtggctta ggctctggcc tgggagctgg cgaaggccta  
 660  
 ggtgagcgct gctacagtga ggcacagcgc tgtgacggct catgggactg tgctgacggc  
 720  
 acagatgagg aggactgccc aggctgccc cctggacact tcccctgtgg ggctgctggc  
 780  
 acctctggtg ccacagcctg ctacctacct gctgaccgct gcaactacca gactttctgt  
 840  
 gctgatggag cagatgagag acgctgtcgg cattgccagc ctggcaattt ccgatgccgg  
 900  
 gacgagaagt gcgtgtatga gacgtgggtg tgcgatgggc agccagactg tgcggacggc  
 960  
 agtgatgagt gggactgctc ctatgttctg ccccgcaagg tcattacagc tgcagtcatt  
 1020  
 ggcagcctag tgtgcggcct gctcctggtc atcgccctgg gctgcacctg caagctctat  
 1080  
 gccattcgca cccaggagta cagcatcttt gccccctct cccggatgga ggctgagatt  
 1140  
 gtgcagcagc aggcaccccc ttcctacggg cagctcattg cccaggggtgc catccacct  
 1200  
 gtagaagact ttcctacaga gaatcctaata gataactcag tgctgggcaa cctgcgttct  
 1260  
 ctgctacaga tcttacgcca ggatatgact ccaggagggtg gccagggtgc ccgccgtcgt  
 1320

cagcggggcc gcttgatgcg acgcctggta cgccgtctcc gccgctgggg cttgctccct  
 1380  
 cgaaccaaca ccccggtctcg ggccctctgag gccagatccc aggtcacacc ttctgctgct  
 1440  
 ccccttgagg ccctagatgg tggcacaggt ccagcccggtg agggcggggc agtgggtggg  
 1500  
 caagatgggg agcaggcacc ccactgccc atcaaggctc cctcccatc tgctagcacg  
 1560  
 tctccagccc ccactactgt ccctgaagcc ccagggccac tgcctcact gccctagag  
 1620  
 ccatcactat tgtctggagt ggtgcaggcc ctgcgaggcc gcctgttgcc cagcctgggg  
 1680  
 cccccaggac caaccggag ccccccctgga cccacacag cagtcctggc cctggaagat  
 1740  
 gaggacgatg tgctactggg gccactggct gagccggggg tgtgggtagc tgaggcagag  
 1800  
 gatgagccac tgcttacctg aggggacctg ggggctctac tgaggcctct cccctggggg  
 1860  
 ctctactcat agtggcacaa ccttttagag gtgggtcagc ctcccctcca ccacttcctt  
 1920  
 ccctgtccct ggatttcagg gacttggtgg gcctcccggt gaccctatgt agctgctata  
 1980  
 aagttaagtg tccctcaggc agggagaggg ctcacagagt ctctctgta cgtggccatg  
 2040  
 gccagacacc ccagtcctt caccaccacc tgctccccc gccaccacca tttgggtggc  
 2100  
 tgtttttaa aagtaaagtt cttagaggat cataggtctg gacactccat ccttgccaaa  
 2160  
 cctctaccca aaagtggcct taagcaccgg aatgccatt aactagagac cctccagccc  
 2220  
 ccaaggggag gatattgggca gaacctgagg ttttgccatc cacaatccct cctacagggc  
 2280  
 ctgggtcaca aaaagagtgc aacaaatgct tctattccat agctacggca ttgctcagta  
 2340  
 agttgaggtc aaaaataaag gaatcataca tctcaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2400  
 aaaaaaaaa  
 2408

&lt;210&gt; 4020

&lt;211&gt; 296

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4020

Cys Asp Gly Gln Pro Asp Cys Ala Asp Gly Ser Asp Glu Trp Asp Cys  
 1 5 10 15  
 Ser Tyr Val Leu Pro Arg Lys Val Ile Thr Ala Ala Val Ile Gly Ser  
 20 25 30  
 Leu Val Cys Gly Leu Leu Leu Val Ile Ala Leu Gly Cys Thr Cys Lys  
 35 40 45  
 Leu Tyr Ala Ile Arg Thr Gln Glu Tyr Ser Ile Phe Ala Pro Leu Ser  
 50 55 60  
 Arg Met Glu Ala Glu Ile Val Gln Gln Gln Ala Pro Pro Ser Tyr Gly

```

65          70          75          80
Gln Leu Ile Ala Gln Gly Ala Ile Pro Pro Val Glu Asp Phe Pro Thr
      85          90          95
Glu Asn Pro Asn Asp Asn Ser Val Leu Gly Asn Leu Arg Ser Leu Leu
      100         105         110
Gln Ile Leu Arg Gln Asp Met Thr Pro Gly Gly Gly Pro Gly Ala Arg
      115         120         125
Arg Arg Gln Arg Gly Arg Leu Met Arg Arg Leu Val Arg Arg Leu Arg
      130         135         140
Arg Trp Gly Leu Leu Pro Arg Thr Asn Thr Pro Ala Arg Ala Ser Glu
      145         150         155         160
Ala Arg Ser Gln Val Thr Pro Ser Ala Ala Pro Leu Glu Ala Leu Asp
      165         170         175
Gly Gly Thr Gly Pro Ala Arg Glu Gly Gly Ala Val Gly Gly Gln Asp
      180         185         190
Gly Glu Gln Ala Pro Pro Leu Pro Ile Lys Ala Pro Leu Pro Ser Ala
      195         200         205
Ser Thr Ser Pro Ala Pro Thr Thr Val Pro Glu Ala Pro Gly Pro Leu
      210         215         220
Pro Ser Leu Pro Leu Glu Pro Ser Leu Leu Ser Gly Val Val Gln Ala
      225         230         235         240
Leu Arg Gly Arg Leu Leu Pro Ser Leu Gly Pro Pro Gly Pro Thr Arg
      245         250         255
Ser Pro Pro Gly Pro His Thr Ala Val Leu Ala Leu Glu Asp Glu Asp
      260         265         270
Asp Val Leu Leu Val Pro Leu Ala Glu Pro Gly Val Trp Val Ala Glu
      275         280         285
Ala Glu Asp Glu Pro Leu Leu Thr
      290         295

```

&lt;210&gt; 4021

&lt;211&gt; 4209

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4021

```

atgggcgtta ggcagaaggc gcctcccggt ggcccggggc caggccgcac ccccgccccg
60
gtgcagatga acctgtacgc cacctgggag gtggaccgga gctcgtccag ctgctgcct
120
aggctattca gcttgaccct gaagaaactc gtcattgctaa aagaaatgga caaagatctt
180
aactcagtgg tcatcgctgt gaagctgcag ggttcaaaaa gaattcttcg ctccaacgag
240
atcgtccctc cagctagtgg actggtggaa acagagctcc aattaacctt ctcccttcag
300
taccctcatt tccttaagcg agatgccaac aagctgcaga tcatgctgca aaggagaaaa
360
cgttacaaga atcggaccat cttgggctat aagaccttg cctgtgggact catcaacatg
420
gcagaggtga tgcagcatcc taatgaaggc gactggtgct ttggcctaca cagcaacgtg
480
aaggatgtct ctgtgcctgt ggcagaaata aagatctact ccctgtccag ccaaccatt
540

```

gaccatgaag gaatcaaadc caagctttct gatcgttctc ctgatattga caattattct  
600  
gaggaagagg aagagagttt ctcacagaa caggaaggca gtgatgatcc attgcatggg  
660  
caggacttgt tctacgaaga cgaagatctc cggaaagtga agaagacccg gaggaacta  
720  
acctcaacct ctgccatcac aaggcaacct aacatcaaac agaagtttgt ggccctcctg  
780  
aagcggttta aagtttcaga tgaggtgggc tttgggctgg agcatgtgtc ccgcgagcag  
840  
atccgggaag tggaagagga cttggatgaa ttgtatgaca gtctggagat gtacaacccc  
900  
agcgacagtg gccctgagat ggaggagaca gaaagcatcc tcagcacgcc aaagcccaag  
960  
ctcaagcctt tctttgaggg gatgtcgcag tccagctccc agacggagat tggcagcctc  
1020  
aacagcaaag gcagcctcgg aaaagacacc accagcccta tggaattggc tgctctagaa  
1080  
aaaattaaat ctacttgat taaaaaccaa gatgacagct tgactgaaac agacactctg  
1140  
gaaatcactg accaggacat gtttgagat gccagcacga gtctggttgt gccggagaaa  
1200  
gtcaaaactc ccatgaagtc cagtaaaacg gatctccagg gctctgcctc cccagcaaa  
1260  
gtggaggggg tgcacacacc ccggcagaag aggagcacgc ccctgaagga gcggcagctc  
1320  
tccaagcccc taagtgagag gaccaacagt tccgacagcg agcgtcccc agatctgggc  
1380  
cacagcacgc agattccaag aaaggtggtg tatgaccagc tcaatcagat cctggtgtca  
1440  
gatgcagccc tcccagaaaa tgtcattctg gtgaacacca ctgactggca gggccagtat  
1500  
gtggctgagc tgctccagga ccagcggaag cctgtggtgt gcacctgctc caccgtggag  
1560  
gtccaggccg tgctgtccgc cctgctcacc cggatccagc gctactgcaa ctgcaactct  
1620  
tccatgccga ggccagtga ggtggctgct gtgggaggcc agagctacct gagctccatc  
1680  
ctcaggttct ttgtcaagtc cctggccaac aagacctccg actggcttgg ctacatgcgc  
1740  
ttctcatca tccccctcgg ttctcaccct gtggccaaat acttggggtc agtcgacagt  
1800  
aaatacagta gttecttctt ggattctggt tggagagatc tgttcagtcg ctcgagcca  
1860  
ccagtgtcag agcaactgga cgtggcaggg cgggtgatgc agtacgtcaa cggggcagcc  
1920  
acgacacacc agcttcccgt ggccgaagcc atgtgactt gccggcataa gttccctgat  
1980  
gaagactcct atcagaagtt tattcccttc attggcgtgg tgaagtgagg tctggttga  
2040  
gactctccct ccacagcagg cgatggggac gattctcctg tggtcagcct tactgtgccc  
2100  
tccacatcac caccctccag ctggggcctg agccgagacg ccacggccac cctccctcc  
2160

tccccatcta tgagcagcgc cctggccatc gtggggagcc ctaatagccc atatggggac  
2220  
gtgattggcc tccaggtgga ctactggctg ggccaccccg gggagcggag gagggaaggc  
2280  
gacaagaggg acgccagctc gaagaacacc ctcaagagtg tttccgctc agtgcaggtg  
2340  
tcccgctgc cccatagtgg ggaggcccag ctttctggca ccatggccat gactgtggtc  
2400  
accaaagaaa agaacaagaa agttcccacc atcttcctga gcaagaaacc ccgagaaaag  
2460  
gaggtggatt ctaagagcca ggtcattgaa ggcacagcc gcctcatctg ctcagccaag  
2520  
cagcagcaga ctatgctgag agtgtccatc gatggggtcg agtggagtga catcaagttc  
2580  
ttccagctgg cagcccagtg gccacccat gtcaagcact ttccagtggg actcttcagt  
2640  
ggcagcaagg ccacctgagg ccctgtctcc cagccacttt cctcctggc actgccacca  
2700  
gcctcaccgc ctgcgggcag ggggaggcca gcaggcccgg gccagcacc ccttccttgg  
2760  
caccagggtc tgctctcac tcgccaggt ccgaaggac actgccacag ggacgccttc  
2820  
cctcccctcc cctccagccc acccctgcac agcccctct cctcccgt tttccccttc  
2880  
tccctctgc tccaggccca aggcgtgttg gttttgcctt ctggtgcca tagtcccctg  
2940  
gactgagtcc cccaggcctt ccttcacccg acttccaaac tcttccttgt ggtatcagtt  
3000  
tccttctcgg aaatgagaaa gctggaatcc tgggtcccag caggagagcc tagtccctcc  
3060  
ccagccctc cagccaccag ggtgtcctct aggatgcagc tgccagatcc actcactctg  
3120  
ctgcctccag caggacccaa ggccactttc aactcttatg gggttctcca cctgccccag  
3180  
agcttctcaa gggagggtaa gggggcacc tgagcccaca ggaccctac ttcacagctc  
3240  
acaggggcag gaggcagctc ccctgcctcc aggaccctgt tgctatggtg acacagcgtt  
3300  
tctaggacag aggggcctcc cagtctcccc ccaccaccg tgcacgactt cctcaccacc  
3360  
cccaggttcc ctgcagatgt cgtgtgtgtc ctgagtgttt ctttggttct ttgcacgcca  
3420  
agtctcttgg ttgtaccatg tgacacaccc tgtgcactgg tcgctgtctt cgtggcttcc  
3480  
acccttggtta atgatgtcc tgctctgcc tccagcccc tcaccagca cagctctgcc  
3540  
tggacttgga gagatgggag gcagaccccc accaccatac atgctgtctg tggccccca  
3600  
gacattctgt ttcattctcc attcatctcc ctctccac cgtgtcagtt tttctgcctt  
3660  
tccctgctct gttcttcccc ctcttaggc ccagcctgg gccagaccc atctcccag  
3720  
ccaggttcc ctccagcagg ctcttccct ccctgtcacc tccctctcac caaccgggg  
3780



tctgagcccc tcattcctga ccgtccgtgt tctcaggagt ggttgaggac acagggcccc  
 3840  
 agcccagccc tctgcacccc ccagcccggc catctgcgcc ccacagcccc tttggagctt  
 3900  
 ttctcttgtc ctctcactcc ttcccagaag tttttgcaca gaacttcatt ttgaaagtgt  
 3960  
 ttttctcatt ctccatacct cccccaagct ctctccagc cttcccagg gctcagccct  
 4020  
 gctgtcctga gcgtctcctg ggccagagag aggagatggg ggtgggaggg actgagttga  
 4080  
 tgttgggttt ttcattcaat aaattggtga tttcttaccg aaaaaaaaaa aaaaaaaaaa  
 4140  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 4200  
 aaaaaaaaaa  
 4209

&lt;210&gt; 4022

&lt;211&gt; 885

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4022

Met	Gly	Val	Arg	Gln	Lys	Ala	Pro	Pro	Gly	Gly	Pro	Gly	Pro	Gly	Arg
1				5					10					15	
Thr	Pro	Ala	Pro	Val	Gln	Met	Asn	Leu	Tyr	Ala	Thr	Trp	Glu	Val	Asp
			20					25					30		
Arg	Ser	Ser	Ser	Ser	Cys	Val	Pro	Arg	Leu	Phe	Ser	Leu	Thr	Leu	Lys
		35					40					45			
Lys	Leu	Val	Met	Leu	Lys	Glu	Met	Asp	Lys	Asp	Leu	Asn	Ser	Val	Val
	50				55						60				
Ile	Ala	Val	Lys	Leu	Gln	Gly	Ser	Lys	Arg	Ile	Leu	Arg	Ser	Asn	Glu
65				70					75					80	
Ile	Val	Leu	Pro	Ala	Ser	Gly	Leu	Val	Glu	Thr	Glu	Leu	Gln	Leu	Thr
				85					90					95	
Phe	Ser	Leu	Gln	Tyr	Pro	His	Phe	Leu	Lys	Arg	Asp	Ala	Asn	Lys	Leu
			100					105					110		
Gln	Ile	Met	Leu	Gln	Arg	Arg	Lys	Arg	Tyr	Lys	Asn	Arg	Thr	Ile	Leu
	115						120					125			
Gly	Tyr	Lys	Thr	Leu	Ala	Val	Gly	Leu	Ile	Asn	Met	Ala	Glu	Val	Met
	130					135					140				
Gln	His	Pro	Asn	Glu	Gly	Ala	Leu	Val	Leu	Gly	Leu	His	Ser	Asn	Val
145				150					155					160	
Lys	Asp	Val	Ser	Val	Pro	Val	Ala	Glu	Ile	Lys	Ile	Tyr	Ser	Leu	Ser
			165					170						175	
Ser	Gln	Pro	Ile	Asp	His	Glu	Gly	Ile	Lys	Ser	Lys	Leu	Ser	Asp	Arg
		180					185						190		
Ser	Pro	Asp	Ile	Asp	Asn	Tyr	Ser	Glu	Glu	Glu	Glu	Glu	Ser	Phe	Ser
	195					200						205			
Ser	Glu	Gln	Glu	Gly	Ser	Asp	Asp	Pro	Leu	His	Gly	Gln	Asp	Leu	Phe
	210				215						220				
Tyr	Glu	Asp	Glu	Asp	Leu	Arg	Lys	Val	Lys	Lys	Thr	Arg	Arg	Lys	Leu
225				230					235					240	
Thr	Ser	Thr	Ser	Ala	Ile	Thr	Arg	Gln	Pro	Asn	Ile	Lys	Gln	Lys	Phe

3202

675	680	685
Gly Asp Asp Ser Pro Val Val Ser Leu Thr Val Pro Ser Thr Ser Pro		
690	695	700
Pro Ser Ser Ser Gly Leu Ser Arg Asp Ala Thr Ala Thr Pro Pro Ser		
705	710	715
Ser Pro Ser Met Ser Ser Ala Leu Ala Ile Val Gly Ser Pro Asn Ser		
725	730	735
Pro Tyr Gly Asp Val Ile Gly Leu Gln Val Asp Tyr Trp Leu Gly His		
740	745	750
Pro Gly Glu Arg Arg Arg Glu Gly Asp Lys Arg Asp Ala Ser Ser Lys		
755	760	765
Asn Thr Leu Lys Ser Val Phe Arg Ser Val Gln Val Ser Arg Leu Pro		
770	775	780
His Ser Gly Glu Ala Gln Leu Ser Gly Thr Met Ala Met Thr Val Val		
785	790	795
Thr Lys Glu Lys Asn Lys Lys Val Pro Thr Ile Phe Leu Ser Lys Lys		
805	810	815
Pro Arg Glu Lys Glu Val Asp Ser Lys Ser Gln Val Ile Glu Gly Ile		
820	825	830
Ser Arg Leu Ile Cys Ser Ala Lys Gln Gln Gln Thr Met Leu Arg Val		
835	840	845
Ser Ile Asp Gly Val Glu Trp Ser Asp Ile Lys Phe Phe Gln Leu Ala		
850	855	860
Ala Gln Trp Pro Thr His Val Lys His Phe Pro Val Gly Leu Phe Ser		
865	870	875
Gly Ser Lys Ala Thr		
885		

&lt;210&gt; 4023

&lt;211&gt; 5193

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4023

```

nnacgcgtga agggcatggc tttttctcct gattccacta aaattgccat aggacagact
60
gacaacatca tctatgtcta caagattgga gaagattggg gtgacaagaa agtcatctgc
120
aacaagttca tccagacgag tgctgtcact tgtctgcaat ggccggcaga atacatcatt
180
gtctttggac tggtgaagg gaaggttcgt ttagcaaaca ccaaaactaa taaatcatct
240
accatctatg ggacagagtc ttacgtggtg tccctgacaa caaattgctc tgggaaagga
300
attctctctg gtcatgcaga tggtaaccac gttaggtatt tctttgatga tgaaggctct
360
ggagagtcac aggggaagtt ggtaaccac ccgtgtccac cctatgcctt ggcatgggca
420
accaatagca tcgtggctgc aggctgtgat cggaaaattg tagcctatgg aaaagaaggt
480
cacatgctac aaacttttga ttatagccgt gaccctcagg agcgggagtt caccacagct
540
gtatcaagtc ctgggggcca gtctgttgtg ctaggaagtt atgacaggct tcgggtgttc
600

```

aactggatcc ctccaagaag catctgggaa gaggcaaagc ccaaggagat taccaattta  
660  
tacaccatca ctgccttggc ctggaagcgg gatggctcac ggctctgtgt gggcacacta  
720  
tgtggtgggg tggaacagtt tgactgctgc ctccaagga gtatttaca gaacaagttt  
780  
gagttgacgt atgtgggacc tagccaggtg attgtgaaga acctgtcatc aggaacccga  
840  
gtggtgctca agtcacacta tggctatgag gtggaagagg tgaaaatcct aggaaaggaa  
900  
cgttacttgg tggtcacac atcagaaaca ctgctgctgg gggacctgaa cactaatcgg  
960  
cttagtgaga tagcctggca aggatctggt ggcaatgaga agtatttctt tgaaaatgag  
1020  
aatgtatgca tgatcttcaa tgccggagag ctaaccctgg tggaatatgg gaataatgac  
1080  
accctgggtt ctgtacgcac tgaattcatg aacccccacc tcatcagtggt tegtattaat  
1140  
gagaggtgtc agcgaggaac agaagataat aagaaattgg cttatcttat tgatattaag  
1200  
actattgcta tagtggatct gattggtggc tacaacattg gcaccgtcag ccatgagagc  
1260  
cgtgtggatt ggctggaact taatgagact ggacacaagc tcctcttcag ggaccggaaa  
1320  
cttcgtttgc atctgtatga tattgaaagc tgctctaaga caatgatcct caacttctgc  
1380  
tcctatatgc agtgggtccc aggaagtgac gtgctggtag ctcagaaccg aaacagtctg  
1440  
tgtgtatggt acaacattga ggcacctgag agagtcacca tgttcactat taggggtgat  
1500  
gttataggtc tggagcgggg cgggggaaag accgaggtga tggatgagga aggtgtgact  
1560  
actgttgctt acacattgga tgagggcctc atcgagtttg gaacagccat tgatgatggc  
1620  
aactacatcc gggcaacagc cttcttagag actctggaaa tgacccaga aacagaggca  
1680  
atgtggaaaa ccttgagtaa actggcacta gaggcaaggc aactacacat tgcggagagg  
1740  
tgcttttctg ctttgggcca agtagcaaaa gctcgattcc tgcagagac caatgagatt  
1800  
gcagatcaag tatcccggga atatggcgga gaaggaacag acttttatca ggtccgagca  
1860  
cgtctagcca tgctggaaaa gaactacaaa ctggctgaaa tgatcttttt ggaacagaat  
1920  
gctgtggagg aggccatggg catgtaccag gagctacacc gttgggatga gtgtatcgct  
1980  
gtggctgaag ccaaggggca ccagccctg gagaagctac gtcgtagtta ctaccagtgg  
2040  
ctgatggaca cacagcaaga ggagcgagca ggtgaactac aggagagcca aggggatggg  
2100  
ctagcagcca tcagcctcta cctcaaagct gggctccctg ccaaagctgc tcggctggtg  
2160  
ctgacccgag aggaactgct agccaacaca gagctggtag aacacatcac tgcagccctt  
2220

atcaaggggg aactctacga aagggcaggt gatctctttg agaagattca caatccacag  
2280  
aaggccctgg agtgctaccg taaaggcaac gcattcatga aagcggtaga gctggctcga  
2340  
ttggccttcc cagtggaggt ggtgaaacta gaggaggcat ggggggacca cctgggtgcag  
2400  
cagaagcagc ttgatgcagc cattaatcac tacatcgaag ccagggtgctc cattaaggca  
2460  
attgaggccg ccctgggtgc cggccagtgg aagaaggcaa tttatatatt agatctacag  
2520  
gaccggaaca ctgcatcaa atactatcct ctctggccc aactatgac atccctgcag  
2580  
gagtatgaga ttgctgagga gctctatact aaggagatc ggacaaaaga tgccatagac  
2640  
atgtacaccc aggctggctg ttgggaacaa gccacaagc tggcgatgaa atgcatgaga  
2700  
ccagaagatg tgtcagtgtc atacatcact caggcccagg aaatggagaa gcagggcaag  
2760  
taccgtgagg ctgaaaggct atatgtgaca gtacaagagc ctgatcttgc catcaccatg  
2820  
tacaaaaagc acaagttgta tgatgacatg atccgcctgg tagggaagca ccatccagat  
2880  
ctcctcagtg atacacacct acatctgggc aaggagctgg aggctgaagg ccgactacag  
2940  
gaggctgagt accactacct cgaggcccag gaatggaagg caacagtga catgtaccgg  
3000  
gccagtgggc tttgggaaga ggcctacagg gtggccagaa ctcaaggagg ggctaattgc  
3060  
cacaaacacg tggcctatct gtgggcaaag agcctgggag gagaggctgc agttagactg  
3120  
cttaataagc tgggactcct ggaagctgtc gttgaccacg ctgcagacaa ttgctccttt  
3180  
gaatttgctg ttgaactctc tgggctggcc ctcaagcaca aaacccccga ggttcactc  
3240  
aaatatgcta tgttcctgga ggatgagggt aaattcgaag aggctgaagc tgaattcatc  
3300  
agagctggtg aaccaagga ggcagtcctc atgtttgtcc ataaccagga ttgggaggca  
3360  
gctcagcgtg tggctgaggc tcacgaccct gacagtgtcg ccgaggtgct tgtgggacag  
3420  
gccccggggg ccttgaggga gaaggacttt cagaaagcag aagggtgct gctccgggccc  
3480  
cagagaccag gcctggccct caattattat aaggaggctg gattatggag tgacgctctg  
3540  
cgcactctgca aggactatgt gccagccag ctggaggctc tgcaggaaga atatgagcgg  
3600  
gaagctacta agaagggggc caggggtgtg gagggatttg tggaacaagc tcgacactgg  
3660  
gagcaggctg gagagtacag ccgtgccgtg gactgctacc tcaaagtgcg agactctgga  
3720  
aacagcggcc tggcgagaa gtgctggatg aaggcagctg aactctccat caagtttctg  
3780  
cctccccaac gtaatatgga agtcgttctg gctgtaggac ccagctgat tggaattgga  
3840

aagcacagtg cagctgcaga gctctatctg aatctggacc ttgtcaagga agcaatcgat  
3900  
gctttcatcg aggggtgagga gtggaacaag gcgaagcgtg tagctaagga gtttagatccc  
3960  
aggtatgaag actatgtgga ccagcattat aaagagttcc tcaagaatca gggcāaagtg  
4020  
gactcgctgg tgggtgtgga tgtgatagct gctttggacc tgtatgtgga gcagggccag  
4080  
tgggacaagt gcattgaaac agctaccaag cagaactaca agattctgca caagtatgtg  
4140  
gctttgtatg caactcactt gatccgggag ggtagctctg cccaggcatt ggccctgtat  
4200  
gtacagcacg gagccctgc taaccacag aacttcaata tctacaaaag gatcttcaact  
4260  
gacatggtga gctctcctgg aaccaactgt gccgaggcct atcatagctg ggctgatctt  
4320  
cgagatgtcc tcttcaacct ggctgtgctg tctccctcct ctagtgtgaa aacctggaag  
4380  
tccagtgagg caaactctcc agcccatgag gagttcaaga cgatgctgct gatcgctcat  
4440  
tactatgcca cgcgctctgc agcccagagt gtcaaacagc tggaaaccgt ggctgccagg  
4500  
ctttctgttt cactcttgcg tcacaccag ctactacctg tagacaaagc cttctatgaa  
4560  
gcaggcattg ctgccaaggc agttggctgg gataacatgg cattcatctt cctcaatcgc  
4620  
tttttggacc tgaccgatgc aatcgaggaa gggactctag atggccttga ccactctgat  
4680  
tttcaggata cagacattcc ctttgagggtg ccactcccag ctaagcagca tgtaccggag  
4740  
gctgagagag aagaggttcg agactgggtg cttacagtct ccatggacca gcggtggag  
4800  
caggttctgc ctcgggatga gcgtggcgcc tacgaggcct ccctagtggc agcgagcact  
4860  
gggtttcgag ccctgccctg ccttattaca ggatacccca ttctgaggaa caaaattgaa  
4920  
ttaagcggc cagggaaggc tgctaacaag gacaactgga ataaattcct tatggccatc  
4980  
aagacctccc acagcccagt gtgccaggac gtgctgaaat tcatcagtca gtggtgtgga  
5040  
gggctcccca gcaccagctt ttcctttcag tagttggtag agctgaggaa gagttagggc  
5100  
ctctccctca ttaaagtttt ataaataaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
5160  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa  
5193

&lt;210&gt; 4024

&lt;211&gt; 1690

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4024

Xaa Arg Val Lys Gly Met Ala Phe Ser Pro Asp Ser Thr Lys Ile Ala

1		5		10		15									
Ile	Gly	Gln	Thr	Asp	Asn	Ile	Ile	Tyr	Val	Tyr	Lys	Ile	Gly	Glu	Asp
		20						25					30		
Trp	Gly	Asp	Lys	Lys	Val	Ile	Cys	Asn	Lys	Phe	Ile	Gln	Thr	Ser	Ala
		35					40					45			
Val	Thr	Cys	Leu	Gln	Trp	Pro	Ala	Glu	Tyr	Ile	Ile	Val	Phe	Gly	Leu
		50				55					60				
Ala	Glu	Gly	Lys	Val	Arg	Leu	Ala	Asn	Thr	Lys	Thr	Asn	Lys	Ser	Ser
65					70					75				80	
Thr	Ile	Tyr	Gly	Thr	Glu	Ser	Tyr	Val	Val	Ser	Leu	Thr	Thr	Asn	Cys
			85					90					95		
Ser	Gly	Lys	Gly	Ile	Leu	Ser	Gly	His	Ala	Asp	Gly	Thr	Ile	Val	Arg
		100					105					110			
Tyr	Phe	Phe	Asp	Asp	Glu	Gly	Ser	Gly	Glu	Ser	Gln	Gly	Lys	Leu	Val
		115				120					125				
Asn	His	Pro	Cys	Pro	Pro	Tyr	Ala	Leu	Ala	Trp	Ala	Thr	Asn	Ser	Ile
		130				135					140				
Val	Ala	Ala	Gly	Cys	Asp	Arg	Lys	Ile	Val	Ala	Tyr	Gly	Lys	Glu	Gly
145					150					155				160	
His	Met	Leu	Gln	Thr	Phe	Asp	Tyr	Ser	Arg	Asp	Pro	Gln	Glu	Arg	Glu
			165					170					175		
Phe	Thr	Thr	Ala	Val	Ser	Ser	Pro	Gly	Gly	Gln	Ser	Val	Val	Leu	Gly
		180					185					190			
Ser	Tyr	Asp	Arg	Leu	Arg	Val	Phe	Asn	Trp	Ile	Pro	Arg	Arg	Ser	Ile
		195				200					205				
Trp	Glu	Glu	Ala	Lys	Pro	Lys	Glu	Ile	Thr	Asn	Leu	Tyr	Thr	Ile	Thr
		210				215					220				
Ala	Leu	Ala	Trp	Lys	Arg	Asp	Gly	Ser	Arg	Leu	Cys	Val	Gly	Thr	Leu
225					230					235				240	
Cys	Gly	Gly	Val	Glu	Gln	Phe	Asp	Cys	Cys	Leu	Arg	Arg	Ser	Ile	Tyr
			245					250					255		
Lys	Asn	Lys	Phe	Glu	Leu	Thr	Tyr	Val	Gly	Pro	Ser	Gln	Val	Ile	Val
		260					265					270			
Lys	Asn	Leu	Ser	Ser	Gly	Thr	Arg	Val	Val	Leu	Lys	Ser	His	Tyr	Gly
		275				280					285				
Tyr	Glu	Val	Glu	Glu	Val	Lys	Ile	Leu	Gly	Lys	Glu	Arg	Tyr	Leu	Val
		290				295					300				
Ala	His	Thr	Ser	Glu	Thr	Leu	Leu	Leu	Gly	Asp	Leu	Asn	Thr	Asn	Arg
305					310					315				320	
Leu	Ser	Glu	Ile	Ala	Trp	Gln	Gly	Ser	Gly	Gly	Asn	Glu	Lys	Tyr	Phe
			325					330					335		
Phe	Glu	Asn	Glu	Asn	Val	Cys	Met	Ile	Phe	Asn	Ala	Gly	Glu	Leu	Thr
		340					345					350			
Leu	Val	Glu	Tyr	Gly	Asn	Asn	Asp	Thr	Leu	Gly	Ser	Val	Arg	Thr	Glu
		355				360					365				
Phe	Met	Asn	Pro	His	Leu	Ile	Ser	Val	Arg	Ile	Asn	Glu	Arg	Cys	Gln
		370				375					380				
Arg	Gly	Thr	Glu	Asp	Asn	Lys	Lys	Leu	Ala	Tyr	Leu	Ile	Asp	Ile	Lys
385					390					395				400	
Thr	Ile	Ala	Ile	Val	Asp	Leu	Ile	Gly	Gly	Tyr	Asn	Ile	Gly	Thr	Val
			405					410					415		
Ser	His	Glu	Ser	Arg	Val	Asp	Trp	Leu	Glu	Leu	Asn	Glu	Thr	Gly	His
		420						425				430			
Lys	Leu	Leu	Phe	Arg	Asp	Arg	Lys	Leu	Arg	Leu	His	Leu	Tyr	Asp	Ile

435	440	445			
Glu Ser Cys Ser Lys Thr Met Ile Leu Asn Phe Cys Ser Tyr Met Gln					
450	455	460			
Trp Val Pro Gly Ser Asp Val Leu Val Ala Gln Asn Arg Asn Ser Leu					
465	470	475			480
Cys Val Trp Tyr Asn Ile Glu Ala Pro Glu Arg Val Thr Met Phe Thr					
	485	490			495
Ile Arg Gly Asp Val Ile Gly Leu Glu Arg Gly Gly Gly Lys Thr Glu					
	500	505			510
Val Met Val Met Glu Gly Val Thr Thr Val Ala Tyr Thr Leu Asp Glu					
	515	520			525
Gly Leu Ile Glu Phe Gly Thr Ala Ile Asp Asp Gly Asn Tyr Ile Arg					
	530	535			540
Ala Thr Ala Phe Leu Glu Thr Leu Glu Met Thr Pro Glu Thr Glu Ala					
545	550	555			560
Met Trp Lys Thr Leu Ser Lys Leu Ala Leu Glu Ala Arg Gln Leu His					
	565	570			575
Ile Ala Glu Arg Cys Phe Ser Ala Leu Gly Gln Val Ala Lys Ala Arg					
	580	585			590
Phe Leu His Glu Thr Asn Glu Ile Ala Asp Gln Val Ser Arg Glu Tyr					
	595	600			605
Gly Gly Glu Gly Thr Asp Phe Tyr Gln Val Arg Ala Arg Leu Ala Met					
	610	615			620
Leu Glu Lys Asn Tyr Lys Leu Ala Glu Met Ile Phe Leu Glu Gln Asn					
625	630	635			640
Ala Val Glu Glu Ala Met Gly Met Tyr Gln Glu Leu His Arg Trp Asp					
	645	650			655
Glu Cys Ile Ala Val Ala Glu Ala Lys Gly His Pro Ala Leu Glu Lys					
	660	665			670
Leu Arg Arg Ser Tyr Tyr Gln Trp Leu Met Asp Thr Gln Gln Glu Glu					
	675	680			685
Arg Ala Gly Glu Leu Gln Glu Ser Gln Gly Asp Gly Leu Ala Ala Ile					
	690	695			700
Ser Leu Tyr Leu Lys Ala Gly Leu Pro Ala Lys Ala Ala Arg Leu Val					
705	710	715			720
Leu Thr Arg Glu Glu Leu Leu Ala Asn Thr Glu Leu Val Glu His Ile					
	725	730			735
Thr Ala Ala Leu Ile Lys Gly Glu Leu Tyr Glu Arg Ala Gly Asp Leu					
	740	745			750
Phe Glu Lys Ile His Asn Pro Gln Lys Ala Leu Glu Cys Tyr Arg Lys					
	755	760			765
Gly Asn Ala Phe Met Lys Ala Val Glu Leu Ala Arg Leu Ala Phe Pro					
	770	775			780
Val Glu Val Val Lys Leu Glu Glu Ala Trp Gly Asp His Leu Val Gln					
785	790	795			800
Gln Lys Gln Leu Asp Ala Ala Ile Asn His Tyr Ile Glu Ala Arg Cys					
	805	810			815
Ser Ile Lys Ala Ile Glu Ala Ala Leu Gly Ala Arg Gln Trp Lys Lys					
	820	825			830
Ala Ile Tyr Ile Leu Asp Leu Gln Asp Arg Asn Thr Ala Ser Lys Tyr					
	835	840			845
Tyr Pro Leu Val Ala Gln His Tyr Ala Ser Leu Gln Glu Tyr Glu Ile					
	850	855			860
Ala Glu Glu Leu Tyr Thr Lys Gly Asp Arg Thr Lys Asp Ala Ile Asp					



865                      870                      875                      880  
 Met Tyr Thr Gln Ala Gly Arg Trp Glu Gln Ala His Lys Leu Ala Met  
                                  885                      890                      895  
 Lys Cys Met Arg Pro Glu Asp Val Ser Val Leu Tyr Ile Thr Gln Ala  
                                  900                      905                      910  
 Gln Glu Met Glu Lys Gln Gly Lys Tyr Arg Glu Ala Glu Arg Leu Tyr  
                                  915                      920                      925  
 Val Thr Val Gln Glu Pro Asp Leu Ala Ile Thr Met Tyr Lys Lys His  
                                  930                      935                      940  
 Lys Leu Tyr Asp Asp Met Ile Arg Leu Val Gly Lys His His Pro Asp  
 945                      950                      955                      960  
 Leu Leu Ser Asp Thr His Leu His Leu Gly Lys Glu Leu Glu Ala Glu  
                                  965                      970                      975  
 Gly Arg Leu Gln Glu Ala Glu Tyr His Tyr Leu Glu Ala Gln Glu Trp  
                                  980                      985                      990  
 Lys Ala Thr Val Asn Met Tyr Arg Ala Ser Gly Leu Trp Glu Glu Ala  
                                  995                      1000                      1005  
 Tyr Arg Val Ala Arg Thr Gln Gly Gly Ala Asn Ala His Lys His Val  
 1010                      1015                      1020  
 Ala Tyr Leu Trp Ala Lys Ser Leu Gly Gly Glu Ala Ala Val Arg Leu  
 1025                      1030                      1035                      1040  
 Leu Asn Lys Leu Gly Leu Leu Glu Ala Ala Val Asp His Ala Ala Asp  
                                  1045                      1050                      1055  
 Asn Cys Ser Phe Glu Phe Ala Phe Glu Leu Ser Arg Leu Ala Leu Lys  
                                  1060                      1065                      1070  
 His Lys Thr Pro Glu Val His Leu Lys Tyr Ala Met Phe Leu Glu Asp  
                                  1075                      1080                      1085  
 Glu Gly Lys Phe Glu Glu Ala Glu Ala Glu Phe Ile Arg Ala Gly Lys  
 1090                      1095                      1100  
 Pro Lys Glu Ala Val Leu Met Phe Val His Asn Gln Asp Trp Glu Ala  
 1105                      1110                      1115                      1120  
 Ala Gln Arg Val Ala Glu Ala His Asp Pro Asp Ser Val Ala Glu Val  
                                  1125                      1130                      1135  
 Leu Val Gly Gln Ala Arg Gly Ala Leu Glu Glu Lys Asp Phe Gln Lys  
                                  1140                      1145                      1150  
 Ala Glu Gly Leu Leu Leu Arg Ala Gln Arg Pro Gly Leu Ala Leu Asn  
                                  1155                      1160                      1165  
 Tyr Tyr Lys Glu Ala Gly Leu Trp Ser Asp Ala Leu Arg Ile Cys Lys  
 1170                      1175                      1180  
 Asp Tyr Val Pro Ser Gln Leu Glu Ala Leu Gln Glu Tyr Glu Arg  
 1185                      1190                      1195                      1200  
 Glu Ala Thr Lys Lys Gly Ala Arg Gly Val Glu Gly Phe Val Glu Gln  
                                  1205                      1210                      1215  
 Ala Arg His Trp Glu Gln Ala Gly Glu Tyr Ser Arg Ala Val Asp Cys  
                                  1220                      1225                      1230  
 Tyr Leu Lys Val Arg Asp Ser Gly Asn Ser Gly Leu Ala Glu Lys Cys  
                                  1235                      1240                      1245  
 Trp Met Lys Ala Ala Glu Leu Ser Ile Lys Phe Leu Pro Pro Gln Arg  
                                  1250                      1255                      1260  
 Asn Met Glu Val Val Leu Ala Val Gly Pro Gln Leu Ile Gly Ile Gly  
 1265                      1270                      1275                      1280  
 Lys His Ser Ala Ala Ala Glu Leu Tyr Leu Asn Leu Asp Leu Val Lys  
                                  1285                      1290                      1295  
 Glu Ala Ile Asp Ala Phe Ile Glu Gly Glu Glu Trp Asn Lys Ala Lys

1300	1305	1310
Arg Val Ala Lys Glu Leu Asp Pro Arg Tyr Glu Asp Tyr Val Asp Gln		
1315	1320	1325
His Tyr Lys Glu Phe Leu Lys Asn Gln Gly Lys Val Asp Ser Leu Val		
1330	1335	1340
Gly Val Asp Val Ile Ala Ala Leu Asp Leu Tyr Val Glu Gln Gly Gln		
1345	1350	1355
Trp Asp Lys Cys Ile Glu Thr Ala Thr Lys Gln Asn Tyr Lys Ile Leu		
1365	1370	1375
His Lys Tyr Val Ala Leu Tyr Ala Thr His Leu Ile Arg Glu Gly Ser		
1380	1385	1390
Ser Ala Gln Ala Leu Ala Leu Tyr Val Gln His Gly Ala Pro Ala Asn		
1395	1400	1405
Pro Gln Asn Phe Asn Ile Tyr Lys Arg Ile Phe Thr Asp Met Val Ser		
1410	1415	1420
Ser Pro Gly Thr Asn Cys Ala Glu Ala Tyr His Ser Trp Ala Asp Leu		
1425	1430	1435
Arg Asp Val Leu Phe Asn Leu Ala Val Leu Ser Pro Ser Ser Ser Val		
1445	1450	1455
Lys Thr Trp Lys Ser Ser Glu Ala Asn Ser Pro Ala His Glu Glu Phe		
1460	1465	1470
Lys Thr Met Leu Leu Ile Ala His Tyr Tyr Ala Thr Arg Ser Ala Ala		
1475	1480	1485
Gln Ser Val Lys Gln Leu Glu Thr Val Ala Ala Arg Leu Ser Val Ser		
1490	1495	1500
Leu Leu Arg His Thr Gln Leu Leu Pro Val Asp Lys Ala Phe Tyr Glu		
1505	1510	1515
Ala Gly Ile Ala Ala Lys Ala Val Gly Trp Asp Asn Met Ala Phe Ile		
1525	1530	1535
Phe Leu Asn Arg Phe Leu Asp Leu Thr Asp Ala Ile Glu Glu Gly Thr		
1540	1545	1550
Leu Asp Gly Leu Asp His Ser Asp Phe Gln Asp Thr Asp Ile Pro Phe		
1555	1560	1565
Glu Val Pro Leu Pro Ala Lys Gln His Val Pro Glu Ala Glu Arg Glu		
1570	1575	1580
Glu Val Arg Asp Trp Val Leu Thr Val Ser Met Asp Gln Arg Leu Glu		
1585	1590	1595
Gln Val Leu Pro Arg Asp Glu Arg Gly Ala Tyr Glu Ala Ser Leu Val		
1605	1610	1615
Ala Ala Ser Thr Gly Val Arg Ala Leu Pro Cys Leu Ile Thr Gly Tyr		
1620	1625	1630
Pro Ile Leu Arg Asn Lys Ile Glu Phe Lys Arg Pro Gly Lys Ala Ala		
1635	1640	1645
Asn Lys Asp Asn Trp Asn Lys Phe Leu Met Ala Ile Lys Thr Ser His		
1650	1655	1660
Ser Pro Val Cys Gln Asp Val Leu Lys Phe Ile Ser Gln Trp Cys Gly		
1665	1670	1675
Gly Leu Pro Ser Thr Ser Phe Ser Phe Gln		
1685	1690	

&lt;210&gt; 4025

&lt;211&gt; 908

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4025

ttaagaactc acactggann gaaaccctat gaatgcaatc actgtgggaa agcatttagt  
 60  
 gatccctcat cccttagact gcatttgaga attcacactg gagaaaaacc ctatgaatgt  
 120  
 aaccagtgtt ttcacgtttt ccgcaccagt tgtaacctta aaagccacaa gaggattcac  
 180  
 acgggggaga atcaccatga atgtaatcag tgtggaaaag ctttcagcac aaggtcctct  
 240  
 ctactgggc acaattgcat tcatacaggg gagaaacctt atgaatgtaa ggaatgtggg  
 300  
 aaaaccttta tgtataattc atcccttatt caacatctga gaactcatac tggagagaaa  
 360  
 ccctatgaat gtaaggagtg tgggaaagcc tttaggcaac attcacacct tgtcacacac  
 420  
 cagaaaatcc atactggaga gaagccctat cagtgcactg aatgtgggaa agccttcagg  
 480  
 cggcgttcac tccttattca acatcggaga attcatagtg gtgagaagcc ctatgaatgt  
 540  
 aaggaatgtg ggaagctctt catttggcgc acagctttcc tcaaacatca gagcctgcat  
 600  
 gctggagaga aacttgaaga atgtgagaaa nnaccttcag caaggatgag gagcttaggg  
 660  
 gagnagcaga aaattcacca agaagagaaa gcttattggt gtaatcagtg tggtagggct  
 720  
 ttccagggca gctcagacct catcggacat caggtaactc atacaggaga gaaaccatat  
 780  
 gaatgtaaag aatgtggana aactttcaat cagagctcag accttctgag acatcataga  
 840  
 attcacagtg gagaaaaacc ttatgtatgc aacaaatgtg ggaaatcttt taggggcagc  
 900  
 tcagatct  
 908

&lt;210&gt; 4026

&lt;211&gt; 302

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4026

Leu	Arg	Thr	His	Thr	Gly	Xaa	Lys	Pro	Tyr	Glu	Cys	Asn	His	Cys	Gly
1				5					10					15	
Lys	Ala	Phe	Ser	Asp	Pro	Ser	Ser	Leu	Arg	Leu	His	Leu	Arg	Ile	His
			20					25					30		
Thr	Gly	Glu	Lys	Pro	Tyr	Glu	Cys	Asn	Gln	Cys	Phe	His	Val	Phe	Arg
		35					40					45			
Thr	Ser	Cys	Asn	Leu	Lys	Ser	His	Lys	Arg	Ile	His	Thr	Gly	Glu	Asn
	50				55						60				
His	His	Glu	Cys	Asn	Gln	Cys	Gly	Lys	Ala	Phe	Ser	Thr	Arg	Ser	Ser
65				70					75					80	
Leu	Thr	Gly	His	Asn	Cys	Ile	His	Thr	Gly	Glu	Lys	Pro	Tyr	Glu	Cys
			85					90						95	
Lys	Glu	Cys	Gly	Lys	Thr	Phe	Met	Tyr	Asn	Ser	Ser	Leu	Ile	Gln	His

100	105	110
Leu Arg Thr His Thr Gly Glu Lys	Pro Tyr Glu Cys Lys Glu Cys Gly	
115	120	125
Lys Ala Phe Arg Gln His Ser His	Leu Val Thr His Gln Lys Ile His	
130	135	140
Thr Gly Glu Lys Pro Tyr Gln Cys	Thr Glu Cys Gly Lys Ala Phe Arg	
145	150	155
Arg Arg Ser Leu Leu Ile Gln His	Arg Arg Ile His Ser Gly Glu Lys	
165	170	175
Pro Tyr Glu Cys Lys Glu Cys Gly	Lys Leu Phe Ile Trp Arg Thr Ala	
180	185	190
Phe Leu Lys His Gln Ser Leu His	Ala Gly Glu Lys Leu Glu Glu Cys	
195	200	205
Glu Lys Xaa Pro Ser Ala Arg Met	Arg Ser Leu Gly Glu Xaa Gln Lys	
210	215	220
Ile His Gln Glu Glu Lys Ala Tyr	Trp Cys Asn Gln Cys Gly Arg Ala	
225	230	235
Phe Gln Gly Ser Ser Asp Leu Ile	Gly His Gln Val Thr His Thr Gly	
245	250	255
Glu Lys Pro Tyr Glu Cys Lys Glu	Cys Gly Xaa Thr Phe Asn Gln Ser	
260	265	270
Ser Asp Leu Leu Arg His His Arg	Ile His Ser Gly Glu Lys Pro Tyr	
275	280	285
Val Cys Asn Lys Cys Gly Lys Ser	Phe Arg Gly Ser Ser Asp	
290	295	300

&lt;210&gt; 4027

&lt;211&gt; 941

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4027

gcgcgccagg gaacctatat ctgtgaaatc cgcctcaaag gggagagcca ggtgttcaag  
 60  
 aaggcgggtgg tactgcatgt gcttccagag gagcccaaag agctcatggg ccatgtgggt  
 120  
 ggattgattc agatgggatg tgttttccag agcacagaag tgaaacacgt gaccaaggta  
 180  
 gaatggatat tttcaggacg gcgcgcaaag gaggagattg tatttcgtta ctaccacaaa  
 240  
 ctcaggatgt ctgcggagta ctcccagagc tggggccact tccagaatcg tgtgaacctg  
 300  
 gtgggggaca ttttccgcaa tgacgggttc atcatgcttc aaggagttag ggagtcagat  
 360  
 ggaggaaact acacctgcag tateccaccta gggaacctgg tgttcaagaa aaccattgtg  
 420  
 ctgcatgtca gcccggaaga gcctcgaaca ctggtgaccc cggcagccct gaggcctctg  
 480  
 gtcttgggtg gtaatcagtt ggtgatcatt gtgggaattg tctgtgccac aatcctgctg  
 540  
 ctccctgttc tgatattgat cgtgaagaag acctgtggaa ataagagttc agtgaattct  
 600  
 acagtcttgg tgaagaacac gaagaagact aatccagaga tgaaagaaaa accttgccat  
 660

tttgaaagat gtgaagggga ggtgaacaca cgcttcagcc taaaacacta agtagatgca  
 720  
 ggccctgggccc gttctcatat ccccggaac catatcttac ccattgtatg tcgcagcttg  
 780  
 caggccagtg cttggcacag agcagggact caggaagcct ttgtcactaa agtaagagcc  
 840  
 tctgcggagt acagtgcatt gggctcgctg ggacaccccc aggcagcaga tcctgggtatt  
 900  
 gggctgagga aagagcactg cgcttgaggc cagtaagatc t  
 941

<210> 4028

<211> 236

<212> PRT

<213> Homo sapiens

<400> 4028

Ala	Arg	Gln	Gly	Thr	Tyr	Ile	Cys	Glu	Ile	Arg	Leu	Lys	Gly	Glu	Ser
1			5						10					15	
Gln	Val	Phe	Lys	Ala	Val	Val	Leu	His	Val	Leu	Pro	Glu	Glu	Pro	
			20				25					30			
Lys	Glu	Leu	Met	Val	His	Val	Gly	Gly	Leu	Ile	Gln	Met	Gly	Cys	Val
		35					40					45			
Phe	Gln	Ser	Thr	Glu	Val	Lys	His	Val	Thr	Lys	Val	Glu	Trp	Ile	Phe
		50				55				60					
Ser	Gly	Arg	Arg	Ala	Lys	Glu	Glu	Ile	Val	Phe	Arg	Tyr	Tyr	His	Lys
65					70					75				80	
Leu	Arg	Met	Ser	Ala	Glu	Tyr	Ser	Gln	Ser	Trp	Gly	His	Phe	Gln	Asn
				85					90					95	
Arg	Val	Asn	Leu	Val	Gly	Asp	Ile	Phe	Arg	Asn	Asp	Gly	Ser	Ile	Met
		100						105					110		
Leu	Gln	Gly	Val	Arg	Glu	Ser	Asp	Gly	Gly	Asn	Tyr	Thr	Cys	Ser	Ile
		115					120					125			
His	Leu	Gly	Asn	Leu	Val	Phe	Lys	Lys	Thr	Ile	Val	Leu	His	Val	Ser
		130					135					140			
Pro	Glu	Glu	Pro	Arg	Thr	Leu	Val	Thr	Pro	Ala	Ala	Leu	Arg	Pro	Leu
145					150					155				160	
Val	Leu	Gly	Gly	Asn	Gln	Leu	Val	Ile	Ile	Val	Gly	Ile	Val	Cys	Ala
			165						170					175	
Thr	Ile	Leu	Leu	Pro	Val	Leu	Ile	Leu	Ile	Val	Lys	Lys	Thr	Cys	
		180					185					190			
Gly	Asn	Lys	Ser	Ser	Val	Asn	Ser	Thr	Val	Leu	Val	Lys	Asn	Thr	Lys
		195					200					205			
Lys	Thr	Asn	Pro	Glu	Met	Lys	Glu	Lys	Pro	Cys	His	Phe	Glu	Arg	Cys
		210				215					220				
Glu	Gly	Glu	Val	Asn	Thr	Arg	Phe	Ser	Leu	Lys	His				
225					230					235					

<210> 4029

<211> 909

<212> DNA

<213> Homo sapiens

<400> 4029

cggccgcctg ttttgggtgg cgctggacct gctggacctg ctggacatgc aggccagcct  
 60  
 gtgggagccg ccgcgctccg ggctgccgct gtgggcccag gccctcacct tcttctactg  
 120  
 ctacatgctg ctgctgggtgc tgccgtgcgt ggcgctcagc gaggtcagca tgcagggcga  
 180  
 gcacatagcg ccgcagaaga tgatgctgta cccgggtgctc agtctcgcca ccgtcaatgt  
 240  
 ggtggggcctg gctggcgcg\_ gccgccaaca tggcgctgtt ccgggacagc cgtgtctcgg  
 300  
 ccattcttctg cggcaaaaac gtggtggcgc tcgccaccaa ggctgcacc tnttcttga  
 360  
 gtaccgcccgc caggtgcgcg acttcccnng ccgcctgcgc tatcactgga gctgcagccg  
 420  
 ccacccccgc agcgcaactc ggtgccgccc ccgcgcccgc cgtgcacgg ccgcctggg  
 480  
 ncgccccac atgtctcgc ccacgcgtga cccctggac acgtgacagg gccgcgcgg  
 540  
 ccccgacac gccctgggg cgcagagaca ccgggttggc ttggggcgcg cggtttgc  
 600  
 gggatggggg gggggcgggc tcccctaggg acaggtgcct cgagtgcggc tgcctgggg  
 660  
 cccgcggccg cttcttcac tcaggaatct ctggaccgc ggatcctcag ccccgctcc  
 720  
 accagccgc cccagcgct ggggtctgtt gggaggcctg ggccggagca gagcagagg  
 780  
 gatccggccc ctgcctgctg ggccgcccgg gttggaagg agggcagtgt gggcggagat  
 840  
 ctgtccttc ggtgggggccc tctggctcag atttggggcc aaggaggcct ctgtcatttt  
 900  
 aaagactcg  
 909

&lt;210&gt; 4030

&lt;211&gt; 169

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4030

Arg	Pro	Pro	Val	Leu	Gly	Gly	Ala	Gly	Pro	Ala	Gly	His
1				5				10			15	
Ala	Gly	Gln	Pro	Val	Gly	Ala	Ala	Ala	Leu	Arg	Ala	Ala
			20					25			30	Val
Arg	Gly	Pro	His	Leu	Leu	Leu	Leu	Leu	His	Ala	Ala	Ala
			35					40			45	Gly
Val	Arg	Gly	Ala	Gln	Arg	Gly	Gln	His	Ala	Gly	Arg	Ala
			50					55			60	His
Ala	Glu	Asp	Asp	Ala	Val	Pro	Gly	Ala	Gln	Ser	Arg	His
					70					75		80
Gly	Gly	Pro	Cys	Trp	Arg	Ala	Pro	Pro	Thr	Trp	Arg	Cys
				85					90			95
Ala	Val	Ser	Arg	Pro	Ser	Ser	Ser	Ala	Lys	Thr	Trp	Trp
				100					105			110
Pro	Arg	Pro	Ala	Pro	Xaa	Pro	Gly	Val	Pro	Pro	Gly	Ala
												Arg
												Leu

	115		120		125	
Pro	Xaa	Pro	Pro	Ala	Leu	Ser
	130		135		140	
Arg	Asn	Ser	Val	Pro	Pro	Pro
145			150		155	160
Xaa	Pro	Pro	His	Val	Leu	Ala
			165			

&lt;210&gt; 4031

&lt;211&gt; 1406

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4031

```

naagctgaga acgcatcttt agctaaactt cgcattgaac gagaaagtgc. cttggaaaaa
60
ctcaggaaag aaattgcagg cttcgaacaa cagaaagcaa aagaattagc tcgaatagaa
120
gagtttaaaa aggaggagat gaggaagcta caaaaggaac gtaaagtgtt tgaaaagtat
180
actacagctg caagaacttt tccagataaa aaggaacgtg aagaaatata gactttaaaa
240
cagcaaatag cagattttacg ggaagatttg aaaagaaagg agaccaaata gtcaagtaca
300
cacagccgtc tcagaagcca gatacaaatg ttagtcagag agaacacaga cctccgggaa
360
gaaataaaaag tgatggaaaag attccgactg gatgcctgga agagagcaga agccatagag
420
agcagcctcg aggtggagaa gaaggacaag cttgcgaaca catctgttcg atttcaaaac
480
agtcagattt cttcaggaac ccaggtagaa aaatacaaga aaaattatct tccaatgcaa
540
ggcaatccac ctcgaagatc caagtctgca cctcctctg atttaggcaa tttggataag
600
ggacaggctg cctctcccag ggagccactt gaaccactga acttcccaga tcctgaatat
660
aaagaggagg aggaagacca agacatacag ggagaaatca gtcacactga tggaaagggtg
720
gaaaagggtt ataagaatgg gtgccgtgtt atactgtttc ccaatggaac tcgaaaggaa
780
gtgagtgcag atgggaagac catcactgtc actttcttta atggtgacgt gaagcaggtc
840
atgccagacc aaagagtgat ctactactat gcagctgccc agaccactca cagacatac
900
ccggaggggac tggaaagtctt acattttctca agtggacaaa tagaaaaaca ttaccagat
960
ggaagaaaag aaatcacgtt tctgaccag actgttaaaa acttatttcc tgatggacaa
1020
gaagaaagca ttttcccaga tggtaacaatt gtcagagtac aacgtgatgg caacaaactc
1080
atagagttta ataattggcca aagagaacta catactgccc agttcaagag acgggaatac
1140
ccagatggca ctgttaaaac cgtatatgca aacggtcatc aagaaacgaa gtacagatcc
1200

```

ggtcggataa gagttaagga caaggagggt aatgtgctaa tggacacgga gctgtgacga  
 1260  
 tcctcatgtg atcatgaagt aacagtaact gactttttat gttaaaaaat gtacatttac  
 1320  
 tgtggattct gtttaattta ttgtgtatgt gtggggaaaa gattggattc taaaataaaa  
 1380  
 gtttaccctg tggcaaaaaa aaaaaa  
 1406

<210> 4032

<211> 418

<212> PRT

<213> Homo sapiens

<400> 4032

Xaa	Ala	Glu	Asn	Ala	Ser	Leu	Ala	Lys	Leu	Arg	Ile	Glu	Arg	Glu	Ser
1			5					10						15	
Ala	Leu	Glu	Lys	Leu	Arg	Lys	Glu	Ile	Ala	Gly	Phe	Glu	Gln	Gln	Lys
	20						25					30			
Ala	Lys	Glu	Leu	Ala	Arg	Ile	Glu	Glu	Phe	Lys	Lys	Glu	Glu	Met	Arg
	35						40					45			
Lys	Leu	Gln	Lys	Glu	Arg	Lys	Val	Phe	Glu	Lys	Tyr	Thr	Thr	Ala	Ala
	50					55					60				
Arg	Thr	Phe	Pro	Asp	Lys	Lys	Glu	Arg	Glu	Glu	Ile	Gln	Thr	Leu	Lys
65					70				75					80	
Gln	Gln	Ile	Ala	Asp	Leu	Arg	Glu	Asp	Leu	Lys	Arg	Lys	Glu	Thr	Lys
			85					90					95		
Trp	Ser	Ser	Thr	His	Ser	Arg	Leu	Arg	Ser	Gln	Ile	Gln	Met	Leu	Val
	100							105					110		
Arg	Glu	Asn	Thr	Asp	Leu	Arg	Glu	Glu	Ile	Lys	Val	Met	Glu	Arg	Phe
	115						120					125			
Arg	Leu	Asp	Ala	Trp	Lys	Arg	Ala	Glu	Ala	Ile	Glu	Ser	Ser	Leu	Glu
	130				135						140				
Val	Glu	Lys	Lys	Asp	Lys	Leu	Ala	Asn	Thr	Ser	Val	Arg	Phe	Gln	Asn
145					150					155				160	
Ser	Gln	Ile	Ser	Ser	Gly	Thr	Gln	Val	Glu	Lys	Tyr	Lys	Lys	Asn	Tyr
			165					170						175	
Leu	Pro	Met	Gln	Gly	Asn	Pro	Pro	Arg	Arg	Ser	Lys	Ser	Ala	Pro	Pro
	180							185					190		
Arg	Asp	Leu	Gly	Asn	Leu	Asp	Lys	Gly	Gln	Ala	Ala	Ser	Pro	Arg	Glu
	195						200					205			
Pro	Leu	Glu	Pro	Leu	Asn	Phe	Pro	Asp	Pro	Glu	Tyr	Lys	Glu	Glu	Glu
	210					215					220				
Glu	Asp	Gln	Asp	Ile	Gln	Gly	Glu	Ile	Ser	His	Pro	Asp	Gly	Lys	Val
225					230					235				240	
Glu	Lys	Val	Tyr	Lys	Asn	Gly	Cys	Arg	Val	Ile	Leu	Phe	Pro	Asn	Gly
			245					250						255	
Thr	Arg	Lys	Glu	Val	Ser	Ala	Asp	Gly	Lys	Thr	Ile	Thr	Val	Thr	Phe
	260							265					270		
Phe	Asn	Gly	Asp	Val	Lys	Gln	Val	Met	Pro	Asp	Gln	Arg	Val	Ile	Tyr
	275						280					285			
Tyr	Tyr	Ala	Ala	Ala	Gln	Thr	Thr	His	Thr	Thr	Tyr	Pro	Glu	Gly	Leu
	290					295					300				
Glu	Val	Leu	His	Phe	Ser	Ser	Gly	Gln	Ile	Glu	Lys	His	Tyr	Pro	Asp



```

305          310          315          320
Gly Arg Lys Glu Ile Thr Phe Pro Asp Gln Thr Val Lys Asn Leu Phe
          325          330          335
Pro Asp Gly Gln Glu Glu Ser Ile Phe Pro Asp Gly Thr Ile Val Arg
          340          345          350
Val Gln Arg Asp Gly Asn Lys Leu Ile Glu Phe Asn Asn Gly Gln Arg
          355          360          365
Glu Leu His Thr Ala Gln Phe Lys Arg Arg Glu Tyr Pro Asp Gly Thr
          370          375          380
Val Lys Thr Val Tyr Ala Asn Gly His Gln Glu Thr Lys Tyr Arg Ser
385          390          395          400
Gly Arg Ile Arg Val Lys Asp Lys Glu Gly Asn Val Leu Met Asp Thr
          405          410          415
Glu Leu

```

<210> 4033  
 <211> 487  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4033
acgcgtgaag ggacaacttc gcagagttcg gctactgctg acgcgcaggg agtaagcctc
60
gggttttgat gggatagcag acaggtggat tgcagagctc cggaaagacc cagccgggtg
120
tcaagaagag ccctcctagt ttggcctcta actggctgtg cgaccccagg caggtcactt
180
gtcctctctg ggaagcagct gaataatgaa cactgggatt ttcccaggct ggcttctcac
240
tgcagagcag aggaaaagca ttctgggggc ctgctatgga gggtcattta tccagtttac
300
aacttcacg gccggccctc aatggcttcc tttctctccc acaagagcgc tgggccaagc
360
cagctctgca ccagttggac gccttccaag aaaaactcag gctccggggg ctgcttgta
420
ggaccagacg ggaggcctgg cgccccgcc cgccatgtgt ggggagcggg cctctccaag
480
ccagtcc
487

```

<210> 4034  
 <211> 94  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4034
Met Asn Thr Gly Ile Phe Pro Gly Trp Leu Leu Thr Ala Glu Gln Arg
1          5          10          15
Lys Ser Ile Leu Gly Ala Cys Tyr Gly Gly Ser Phe Ile Gln Phe Thr
20          25          30
Thr Ser Thr Ala Gly Pro Gln Trp Leu Pro Phe Ser Pro Thr Arg Ala
35          40          45
Leu Gly Gln Ala Ser Ser Ala Pro Val Gly Arg Leu Pro Arg Lys Thr

```

50                      55                      60  
 Gln Ala Pro Gly Ala Ala Cys Gln Asp Gln Thr Gly Gly Leu Ala Pro  
 65                      70                      75                      80  
 Pro Pro Ala Met Cys Gly Glu Arg Ala Ser Pro Ser Gln Ser  
                     85                      90

<210> 4035  
 <211> 343  
 <212> DNA  
 <213> Homo sapiens

<400> 4035  
 nnncttaata gcagtgttat ggaattccat gtgaggcaca aacattcaga caatcctagc  
 60  
 aatgtttctgg aatcctatgt gagggacaaa cattcagacc ccagcagcaa tggtctggaa  
 120  
 tcctatggga gggacaaact ctcagaaaat agcaagagta ttttggaatc ctatctgagg  
 180  
 tataaacact cagaacctca tagcagtgtt caggaatcct atgtgagggga caaacattca  
 240  
 gaccacagca ggagcattct agaatcctat ttgaggaaca aacattcaga caatcgtagc  
 300  
 agtgtttctgg aatccttttt ttttttgaag ctttcaatct ctt  
 343

<210> 4036  
 <211> 114  
 <212> PRT  
 <213> Homo sapiens

<400> 4036  
 Xaa Leu Asn Ser Ser Val Met Glu Phe His Val Arg His Lys His Ser  
 1                      5                      10                      15  
 Asp Asn Pro Ser Asn Val Leu Glu Ser Tyr Val Arg Asp Lys His Ser  
                     20                      25                      30  
 Asp Pro Ser Ser Asn Val Leu Glu Ser Tyr Gly Arg Asp Lys Leu Ser  
                     35                      40                      45  
 Glu Asn Ser Lys Ser Ile Leu Glu Ser Tyr Leu Arg Tyr Lys His Ser  
 50                      55                      60  
 Glu Pro His Ser Ser Val Gln Glu Ser Tyr Val Arg Asp Lys His Ser  
 65                      70                      75                      80  
 Asp His Ser Arg Ser Ile Leu Glu Ser Tyr Leu Arg Asn Lys His Ser  
                     85                      90                      95  
 Asp Asn Arg Ser Ser Val Leu Glu Ser Phe Phe Phe Leu Lys Leu Ser  
                     100                      105                      110  
 Ile Ser

<210> 4037  
 <211> 741  
 <212> DNA  
 <213> Homo sapiens

<400> 4037

tttttttttt ttttttttgg aaagagaaaa tatatttact attcattaag tggatgcggg  
 60  
 tcatcataaa ggtcttcatt ctcatcctct tcacgttgag taggctgagg aggaggaaga.  
 120  
 ggaggagaag gggttggctct tgctgtctca gggcggcaga ggcagaagag aatctgagca  
 180  
 tacgtggacc tgtagccagg tgggcataga taaaaggaaa tattgtttgc cagtccttgc  
 240  
 tggaatgatg cctttacaca tctgtctgat ctgattgctc cactgttttc tgacttctct  
 300  
 tccctttcca gggttctagc ctgttcctct agcccatga tggctgtgga catcgagtac  
 360  
 agatacaact gcatggctcc ttccttgccg caagagaggt ttgcctttaa gatctcacca  
 420  
 aagcccagca aaccactgag gccttgtatt cagctgagca gcaagaatga agccagtgga  
 480  
 atggtggccc cggtgtcca ggagaagaag gtgaaaaagc ggggtgtcctt cgcagacaac  
 540  
 caggggctgg ccctgacaat ggtcaaagtg ttctcggaat tcgatgaccg gctagatatg  
 600  
 ccattcaaca tcaccgagct cctagacaac attgtgagct tgacgacagc agagagcgag  
 660  
 agctttgttc tggatttttc ccagccctct gcagattact tagactttag aaatcgactt  
 720  
 caggccgacc acgtctgcct t  
 741

&lt;210&gt; 4038

&lt;211&gt; 134

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4038

Met	Ala	Val	Asp	Ile	Glu	Tyr	Arg	Tyr	Asn	Cys	Met	Ala	Pro	Ser	Leu
1				5					10					15	
Arg	Gln	Glu	Arg	Phe	Ala	Phe	Lys	Ile	Ser	Pro	Lys	Pro	Ser	Lys	Pro
			20					25					30		
Leu	Arg	Pro	Cys	Ile	Gln	Leu	Ser	Ser	Lys	Asn	Glu	Ala	Ser	Gly	Met
			35				40					45			
Val	Ala	Pro	Ala	Val	Gln	Glu	Lys	Lys	Val	Lys	Lys	Arg	Val	Ser	Phe
			50			55					60				
Ala	Asp	Asn	Gln	Gly	Leu	Ala	Leu	Thr	Met	Val	Lys	Val	Phe	Ser	Glu
65					70					75				80	
Phe	Asp	Asp	Pro	Leu	Asp	Met	Pro	Phe	Asn	Ile	Thr	Glu	Leu	Leu	Asp
			85						90				95		
Asn	Ile	Val	Ser	Leu	Thr	Thr	Ala	Glu	Ser	Glu	Ser	Phe	Val	Leu	Asp
			100					105					110		
Phe	Ser	Gln	Pro	Ser	Ala	Asp	Tyr	Leu	Asp	Phe	Arg	Asn	Arg	Leu	Gln
			115				120					125			
Ala	Asp	His	Val	Cys	Leu										
			130												

&lt;210&gt; 4039

&lt;211&gt; 1503

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4039

gcgagcgccg ggaacgagca ccaccagggc tggagcggac ggcttttagaa gaggcctagct  
60  
gctgcgcgcg tcggagagggc tcctggggaa actcccacgg cccagggact ttcgaaagca  
120  
gagcgaggag ccctcgacg cgctagtctg cgagtgageg ctcagcccgg cacctgttcc  
180  
tccagcgccg ccgccttccc acccctcgga cccgcgccg tcgcggcgcc cgcccggtcc  
240  
tgcatgaat ccggccctag gcaaccagac ggacgtggcg ggcccttctg gccaacagca  
300  
gcgaggcgct ggagcgagcc gtgcgctgct gcaccagggc gtccgtggtg accgacgacg  
360  
gcttcgcgga gggaggcccg gacgagcgta gcctgtacat aatgcgcgtg gtgcagatcg  
420  
cggtcatgtg cgtgctctca ctcaccgtgg tcttcggcat cttcttcctc ggctgcaatc  
480  
tgctcatcaa gtccgagggc atgatcaact tcctcgtgaa ggaccggagg ccgtctaagg  
540  
aggtggaggg ggtggctgtg gggccctact gaccgcctc ctgcccccg gcgaaccgct  
600  
cccagcctg ccactttgc tagcccggtg gtgcccctca ctatcagaga ctgggcgaag  
660  
caaacctgtc ggagtcaatt atttctctcg acttcggcct ttcggaaaga agcgaccggt  
720  
ttctccctcg ccctctgaaa gtcctcatgc ctggcagtcg gaggagagcg cccagactct  
780  
gaactcagca gaaagtggca agaagagggc gattagggcg cagaactttg gaagctgcta  
840  
cttacttga atgcggggag accgacggtg cgaaggccct tctccaccg caggtggggc  
900  
aagctctggg ggcaggtgga gagggcgggc aggggagaga cccagcggca ctgatcgcc  
960  
tgtgaccgga agagtgcct gttaaaagcc acgcagcaga ctcatggggc ctcacaaatc  
1020  
cgtgtccggg tgcgtccca ctcttctcct gctccccccc tgcccctgga ggggaggggc  
1080  
gataaatacc tttgattgta acgtgccgtt ttaagagggt ttgtgtttgt ttgettgaat  
1140  
acaaatgttt gataagtctt tttctgcccc agtggcctgt ttgcctgcct gaggagtta  
1200  
agttttgtca ttgtggaaga aggggtgggg ggagggggag cctgcgaatt tgaacgggg  
1260  
gagttgtttc ttttagtgca tttccactg ggtcttttgg gaggcgtcta gcgttctgc  
1320  
tgccctggg acaaagacc agaatagaac tcgtagctcg tgactgcacg gtttacgcca  
1380  
caaaagtgt cttgacatcc gtgacaccgt tttgactttt tgttttttcc ttatttaaca  
1440  
tttccttaat aaatgcaaca ttttagcggt aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
1500

aaa  
1503

<210> 4040  
<211> 100  
<212> PRT  
<213> Homo sapiens

<400> 4040  
Lys Ser Leu Ala Ala Ala Arg Val Gly Glu Ala Pro Gly Glu Thr Pro  
1 5 10 15  
Thr Ala Gln Gly Leu Ser Lys Ala Glu Arg Gly Ala Leu Ala Arg Ala  
20 25 30  
Ser Leu Arg Val Ser Ala Gln Pro Gly Thr Cys Ser Ser Ser Ala Ala  
35 40 45  
Ala Phe Pro Pro Leu Gly Pro Ala Pro Leu Ala Ala Pro Ala Arg Ser  
50 55 60  
Cys Asp Glu Ser Gly Pro Arg Gln Pro Asp Gly Arg Gly Gly Pro Ser  
65 70 75 80  
Trp Pro Thr Ala Ala Arg Arg Trp Ser Glu Pro Cys Ala Ala Ala Pro  
85 90 95  
Arg Arg Pro Trp  
100

<210> 4041  
<211> 573  
<212> DNA  
<213> Homo sapiens

<400> 4041  
gatcttattg aggaacgagc catctatctt gatggagact ttggtcagat tgttcgatat  
60  
ggtgagattc cagctgaatt aagggcggcg gccactgacc accggcagga gctaattgaa  
120  
tgtgttgcca attcagatga acagcttggt gagatgtttc tggaagaaaa aatcccctcg  
180  
atctctgatt taaagctagc aattcgaaga gctactctga aaagatcatt tactcctgta  
240  
tttttgggaa ggccttgaa gaacaaagga gttcagcctc ttttagatgc tgttttagaa  
300  
tacctcccaa atccatctga agtcagaac tatgctattc tcaataaaga ggatgactca  
360  
aaagagaaaa ccaaaatcct aatgaactcc agtagagaca attcccaccc attttaggc  
420  
ctggcctttta aactggaggt aggtcgattt ggacaattaa cttatgttcg cagttatcag  
480  
ggagagctaa agaaggggtga caccatctat aacacaagga caagaaagaa agtacggttg  
540  
caacggctgg ctgcgatgca tgccgacatg atg  
573

<210> 4042  
<211> 191  
<212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4042

```

Asp Leu Ile Glu Glu Arg Ala Ile Tyr Phe Asp Gly Asp Phe Gly Gln
 1           5           10           15
Ile Val Arg Tyr Gly Glu Ile Pro Ala Glu Leu Arg Ala Ala Ala Thr
          20           25           30
Asp His Arg Gln Glu Leu Ile Glu Cys Val Ala Asn Ser Asp Glu Gln
          35           40           45
Leu Gly Glu Met Phe Leu Glu Glu Lys Ile Pro Ser Ile Ser Asp Leu
          50           55           60
Lys Leu Ala Ile Arg Arg Ala Thr Leu Lys Arg Ser Phe Thr Pro Val
          65           70           75           80
Phe Leu Gly Ser Ala Leu Lys Asn Lys Gly Val Gln Pro Leu Leu Asp
          85           90           95
Ala Val Leu Glu Tyr Leu Pro Asn Pro Ser Glu Val Gln Asn Tyr Ala
          100          105          110
Ile Leu Asn Lys Glu Asp Asp Ser Lys Glu Lys Thr Lys Ile Leu Met
          115          120          125
Asn Ser Ser Arg Asp Asn Ser His Pro Phe Val Gly Leu Ala Phe Lys
          130          135          140
Leu Glu Val Gly Arg Phe Gly Gln Leu Thr Tyr Val Arg Ser Tyr Gln
          145          150          155          160
Gly Glu Leu Lys Lys Gly Asp Thr Ile Tyr Asn Thr Arg Thr Arg Lys
          165          170          175
Lys Val Arg Leu Gln Arg Leu Ala Arg Met His Ala Asp Met Met
          180          185          190

```

&lt;210&gt; 4043

&lt;211&gt; 744

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4043

```

nntgcctggc ccagtctctc ccgcctcggc ccaacatgga cttcagagaa attctcatga
60
tagcttccaa gggacaaggt gtcaacaatg tgccgaaaag ggatagttgg ccagtggggc
120
ctcccaaaaa aagaccctaa agttaaaggt gtccaatcag cagctgtaca agcttttctt
180
aaaaggaaag aagaggagct gagacgaaaa gccttagagg agaaaaggag aaaagaggaa
240
ctagtgaaaa agcgaattga gctcaaactat gacaagaaa caagagctat ggccaagagg
300
acaaaggata atttccatgg ttacaatggg attcctattg aggaaaagtc aaagaagagg
360
caggcaacag aaagccatac cagccaagga accgaccgag agtatgaaat ggaagaagag
420
aatgaattcc tcgagtacaa tcacgcagag tcagagcagg agtatgagga agagcaagaa
480
cctcccaaaag ttgaaagcaa accaaagggt tcccttaaag gtgccccacc acctatgaac
540
ttcactgatt tactcagggt ggctgagaaa aagcagtttg aaccagtggg aatcaaggta
600

```

gtgaagaaat cagaagagcg acctatgacc gcagaagaac ttagggagcg agaattcctt  
 660  
 gaacgaaagc ataggagaaa aaaacttgag acagatggaa aactacctcc aactgtgtcc  
 720  
 aaaaaggcac ctctcgagcg gaag  
 744

<210> 4044

<211> 219

<212> PRT

<213> Homo sapiens

<400> 4044

Met	Cys	Arg	Lys	Gly	Ile	Val	Gly	Gln	Trp	Gly	Leu	Pro	Lys	Lys	Asp
1			5					10					15		
Pro	Lys	Val	Lys	Gly	Val	Gln	Ser	Ala	Ala	Val	Gln	Ala	Phe	Leu	Lys
		20					25					30			
Arg	Lys	Glu	Glu	Leu	Arg	Arg	Lys	Ala	Leu	Glu	Glu	Lys	Arg	Arg	
	35				40					45					
Lys	Glu	Glu	Leu	Val	Lys	Lys	Arg	Ile	Glu	Leu	Lys	His	Asp	Lys	Lys
	50				55				60						
Ala	Arg	Ala	Met	Ala	Lys	Arg	Thr	Lys	Asp	Asn	Phe	His	Gly	Tyr	Asn
65				70					75				80		
Gly	Ile	Pro	Ile	Glu	Glu	Lys	Ser	Lys	Lys	Arg	Gln	Ala	Thr	Glu	Ser
			85					90					95		
His	Thr	Ser	Gln	Gly	Thr	Asp	Arg	Glu	Tyr	Glu	Met	Glu	Glu	Glu	Asn
		100					105					110			
Glu	Phe	Leu	Glu	Tyr	Asn	His	Ala	Glu	Ser	Glu	Gln	Glu	Tyr	Glu	Glu
	115					120					125				
Glu	Gln	Glu	Pro	Pro	Lys	Val	Glu	Ser	Lys	Pro	Lys	Val	Ser	Leu	Lys
	130					135					140				
Gly	Ala	Pro	Pro	Pro	Met	Asn	Phe	Thr	Asp	Leu	Leu	Arg	Leu	Ala	Glu
145					150				155				160		
Lys	Lys	Gln	Phe	Glu	Pro	Val	Glu	Ile	Lys	Val	Val	Lys	Lys	Ser	Glu
		165						170					175		
Glu	Arg	Pro	Met	Thr	Ala	Glu	Glu	Leu	Arg	Glu	Arg	Glu	Phe	Leu	Glu
	180							185				190			
Arg	Lys	His	Arg	Arg	Lys	Lys	Leu	Glu	Thr	Asp	Gly	Lys	Leu	Pro	Pro
	195					200						205			
Thr	Val	Ser	Lys	Lys	Ala	Pro	Leu	Gly	Arg	Lys					
	210					215									

<210> 4045

<211> 2217

<212> DNA

<213> Homo sapiens

<400> 4045

ngtagctaca gtacatactg atgagtgaag aatgggtttgc tttgggaata ttttcttagt  
 60  
 tcttcaagga catgatgtgg aagtcttgac ttgagtaact tcaatagcac taacaacagg  
 120  
 aattgaaaaa aacttagaat tttaaagctg agaaagagtt atcgctgtga tgattttgtg  
 180

gttaatgaca ccaagctggg actggtacag aaagtcagag aacacttaca gaacttggaa  
240  
aactcagctt tcacagctga caggcataag aaaagaaaac ttttgaaaa ctcaacacta  
300  
aacagcaagt tattaagaat aaatggaagc accactgccca tttgtgccac aggccttcgg  
360  
aatttgggga acacatgttt catgaatgcc atccttcagt cactcagtaa cattgagcag  
420  
ttttgctgtt atttcaaaga actgcccgcc gtggagttaa ggaatgggaa aacagcagga  
480  
aggcggacat accacaccag gagccaaggg gataacaatg tgtctttggt agaagagttt  
540  
agaaagacac tctgtgcttt atggcaaggc agccagactg catttagccc agagtcctta  
600  
ttttatgttg ttggaagat tatgccaaac tttaggggct atcaacagca ggacgcccac  
660  
gaattcnatg cgctaccttt tggaccacct acacttggan acttcagggc ggtttcaacg  
720  
gtgtttcccg ctcagcaatt ctgcaggaga attctactct gtctgcaagt anacaagtgt  
780  
tgcataaatg gagcatctac tgttgtcacg gctatattcg gaggcattct ccaaatgag  
840  
gttaactgcc tcatatgttg gacagaatct agaaagtttg atccattcct agacctttca  
900  
ttagatattc caagtcagtt cagaagtaag cgctctaaga atcaagaaaa tggaccagtt  
960  
tgttcgttac gagattgtct tcgcagtttt accgacttag aagaacttga tgagacagag  
1020  
ttatatatgt gccataaatg caaanagaaa caaaagtcca caaaaaagtt ttggattcaa  
1080  
aaactaccca aggtgctatg cttacatttg aaaagatttc attggacagc atatttaaga  
1140  
aataaagttg atacatacgt agaatttcca ctgagaggcc tagacatgaa atgctactta  
1200  
ctagatcctg agaacagtgg cccggagagc tgcctgtatg acctcgccgc tgtggtggtg  
1260  
caccatggtt cgggggttggt ttctggacat tacacagcat acgcaactca cgaaggccgc  
1320  
tggttccact tcaatgacag tactgtaaca ctgactgacg aagagactgt ggtgaaggcg  
1380  
aaggctaaca tccttttcta cgtggaacac caggccaaag ctggatcgga taaactttaa  
1440  
tacctcctcc aaatcatcat tcaccaacca taccagagaa acatttccag tttccacaa  
1500  
atacttgata caagatttaa tttcattatg cacttttcaa tttcctatct tggatttagt  
1560  
tttgtcaatg gtagtgactt actgaacatg ggcaccaact aattttgttg ttgttctacc  
1620  
agaaaacctc agcagatgtt ttgatttgct gctttagttg taataattca atttttatag  
1680  
gtagttgtaa gaacttagtc ttatttgact tttttatctt atgttaatgt tttcagttct  
1740  
cactttgagg cacatttaca tcaatgcttt tgttcctctc acatgctgaa agcaagatgt  
1800



gttccttatt gtgaagagcg acacaactgc ctgctgcctt tccacagcta taatggacat  
 1860  
 caggttgact ctaaatacaag gatcatgtgt gcacaatact tgtggccac aaaatttcac  
 1920  
 aatgactgct gaggaatcat tctttttgcc tgtaaaatat aacaaagggc atcattaagt  
 1980  
 agaccaggta attactgctt gtctctcaag gctgctgtct ttatcagcac taactaaata  
 2040  
 aatttggttg ttcagttgta cttgtcctgc aaatacaaga attactctct ttgttggttt  
 2100  
 ttttggtttt ggggcatact tgtttgcggg gaggtaagat gggagtaaag accaaatata  
 2160  
 tgtaatgttt aaaaaaatg ctgtgactcc ctgacatggt ataggtgtta ccagtga  
 2217

<210> 4046

<211> 437

<212> PRT

<213> Homo sapiens

<400> 4046

Lys	Lys	Leu	Arg	Ile	Leu	Lys	Leu	Arg	Lys	Ser	Tyr	Arg	Cys	Asp	Asp
1				5					10					15	
Phe	Val	Val	Asn	Asp	Thr	Lys	Leu	Gly	Leu	Val	Gln	Lys	Val	Arg	Glu
			20					25					30		
His	Leu	Gln	Asn	Leu	Glu	Asn	Ser	Ala	Phe	Thr	Ala	Asp	Arg	His	Lys
		35				40						45			
Lys	Arg	Lys	Leu	Leu	Glu	Asn	Ser	Thr	Leu	Asn	Ser	Lys	Leu	Leu	Lys
	50					55					60				
Val	Asn	Gly	Ser	Thr	Thr	Ala	Ile	Cys	Ala	Thr	Gly	Leu	Arg	Asn	Leu
65					70					75				80	
Gly	Asn	Thr	Cys	Phe	Met	Asn	Ala	Ile	Leu	Gln	Ser	Leu	Ser	Asn	Ile
				85				90						95	
Glu	Gln	Phe	Cys	Cys	Tyr	Phe	Lys	Glu	Leu	Pro	Ala	Val	Glu	Leu	Arg
			100					105					110		
Asn	Gly	Lys	Thr	Ala	Gly	Arg	Arg	Thr	Tyr	His	Thr	Arg	Ser	Gln	Gly
		115				120						125			
Asp	Asn	Asn	Val	Ser	Leu	Val	Glu	Glu	Phe	Arg	Lys	Thr	Leu	Cys	Ala
	130					135					140				
Leu	Trp	Gln	Gly	Ser	Gln	Thr	Ala	Phe	Ser	Pro	Glu	Ser	Leu	Phe	Tyr
145					150					155				160	
Val	Val	Trp	Lys	Ile	Met	Pro	Asn	Phe	Arg	Gly	Tyr	Gln	Gln	Gln	Asp
				165				170						175	
Ala	His	Glu	Phe	Xaa	Ala	Leu	Pro	Phe	Gly	Pro	Pro	Thr	Leu	Gly	Xaa
			180					185					190		
Phe	Arg	Ala	Val	Ser	Thr	Val	Phe	Pro	Ala	Gln	Gln	Phe	Cys	Arg	Arg
		195				200						205			
Ile	Leu	Leu	Cys	Leu	Gln	Val	Xaa	Lys	Cys	Cys	Ile	Asn	Gly	Ala	Ser
	210					215						220			
Thr	Val	Val	Thr	Ala	Ile	Phe	Gly	Gly	Ile	Leu	Gln	Asn	Glu	Val	Asn
225					230					235				240	
Cys	Leu	Ile	Cys	Gly	Thr	Glu	Ser	Arg	Lys	Phe	Asp	Pro	Phe	Leu	Asp
				245					250					255	
Leu	Ser	Leu	Asp	Ile	Pro	Ser	Gln	Phe	Arg	Ser	Lys	Arg	Ser	Lys	Asn

```

      260      265      270
Gln Glu Asn Gly Pro Val Cys Ser Leu Arg Asp Cys Leu Arg Ser Phe
      275      280      285
Thr Asp Leu Glu Glu Leu Asp Glu Thr Glu Leu Tyr Met Cys His Lys
      290      295      300
Cys Lys Xaa Lys Gln Lys Ser Thr Lys Lys Phe Trp Ile Gln Lys Leu
      305      310      315      320
Pro Lys Val Leu Cys Leu His Leu Lys Arg Phe His Trp Thr Ala Tyr
      325      330      335
Leu Arg Asn Lys Val Asp Thr Tyr Val Glu Phe Pro Leu Arg Gly Leu
      340      345      350
Asp Met Lys Cys Tyr Leu Leu Asp Pro Glu Asn Ser Gly Pro Glu Ser
      355      360      365
Cys Leu Tyr Asp Leu Ala Ala Val Val Val His His Gly Ser Gly Val
      370      375      380
Gly Ser Gly His Tyr Thr Ala Tyr Ala Thr His Glu Gly Arg Trp Phe
      385      390      395      400
His Phe Asn Asp Ser Thr Val Thr Leu Thr Asp Glu Glu Thr Val Val
      405      410      415
Lys Ala Lys Ala Asn Ile Leu Phe Tyr Val Glu His Gln Ala Lys Ala
      420      425      430
Gly Ser Asp Lys Leu
      435

```

&lt;210&gt; 4047

&lt;211&gt; 809

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4047

```

gcagttaaca ttacaaggcc ctagaagtaa tacacatcgc aattcaagtc tgtattcttg
60
aacttttccc ctgttactgt gaagaagagt atcatgggctc catttaatct ttgattactg
120
cctaaaagca ttcattgccc cagtagttct taattgtctt ggaaatcatt ctcttgcaaa
180
cttcacatct ccatatcata ctttacttta cgctattact tcatgggctc ctgggcattt
240
ggtctgtttg tgtttctcct ttcctctttg aacaaagtca ggaaaaatgt gtcagtagga
300
gaaaggagga gctgaaggga gtaaataatt caagatcact tctgtcattt gtagtggctg
360
agggctagaa agatattctt cggatgaaga actcccaaca ggttccatca gactgataca
420
acttcagggg ggccaccctc tgcagatggc agtgaatttg cacctgtttg tggtagggc
480
actaccacag catctttgat gtctgtgttt acattacatg agaagttctt ctccagtttt
540
ttggcagtgt ctgggcaatt ttgtacaaag atcacacggg ttaggcctt cagcctgcgc
600
cacaactgaa catagacttt aactgtacg tacatgaaga caagacctcc tgtgaagcca
660
atggctacca caaccagttt tgtccaaat ggccattcaa ggacacctt gaaatgaaaa
720

```

agagaaaatg ttatcaccaa gttgtcctca gtggatttgg tcattttttt ttcctatgac  
 780  
 ccttcaaagg cccgtgcttg ccttctaga  
 809

<210> 4048  
 <211> 118  
 <212> PRT  
 <213> Homo sapiens

<400> 4048  
 Met Thr Lys Ser Thr Glu Asp Asn Leu Val Ile Thr Phe Ser Leu Phe  
 1 5 10 15  
 His Phe Lys Gly Val Leu Glu Trp Pro Phe Trp Thr Lys Leu Val Val  
 20 25 30  
 Val Ala Ile Gly Phe Thr Gly Gly Leu Val Phe Met Tyr Val Gln Cys  
 35 40 45  
 Lys Val Tyr Val Gln Leu Trp Arg Arg Leu Lys Ala Tyr Asn Arg Val  
 50 55 60  
 Ile Phe Val Gln Asn Cys Pro Asp Thr Ala Lys Lys Leu Glu Lys Asn  
 65 70 75 80  
 Phe Ser Cys Asn Val Asn Thr Asp Ile Lys Asp Ala Val Val Val Pro  
 85 90 95  
 Val Pro Gln Thr Gly Ala Asn Ser Leu Pro Ser Ala Glu Gly Gly Pro  
 100 105 110  
 Pro Glu Val Val Ser Val  
 115

<210> 4049  
 <211> 1211  
 <212> DNA  
 <213> Homo sapiens

<400> 4049  
 nncctaagt acccttctca ggacctgcag ttcattgttg ccgggggatga gtgtgtctac  
 60  
 ttgtaccagc ctgatgaacg tgggccctgc ttcgcctttg agggccataa gctcattgcc  
 120  
 cactggttta gaggctacct tatcattgtc tcccgtgacc ggaagggttc tcccaagtca  
 180  
 gagtttacca gcagggattc acagagctcc gacaagcaga ttctaaacat ctatgacctg  
 240  
 tgcaacaagt tcatagccta tagcaccgtc tttgaggatg tagtggatgt gcttgctgag  
 300  
 tggggctccc tgtacgtgct gacgcgggat gggcgggtcc acgcactgca ggagaaggac  
 360  
 acacagacca aactggagat gctgtttaag aagaacctat ttgagatggc gattaacctt  
 420  
 gccaaagacc agcatctgga cagtgatggg ctggcccaga ttttcatgca gtatggagac  
 480  
 catctctaca gcaagggcaa ccacgatggg gctgtccagc aatatatccg aaccattgga  
 540  
 aagttggagc catctacgt gatccgcaag tttctggatg cccagcgcac tcacaacctg  
 600

actgcctacc tgcagaccct gcaccgacaa tccttgcca atgccgacca taccaccctg  
 660  
 ctctcaact gctataccaa gctcaaggac agctcgaagc tggaggagtt catcaagaaa  
 720  
 aagagtgaga gtgaagtcca ctttgatgtg gagacagcca tcaaggctcct ccggcaggct  
 780  
 ggctactact cccatgccct gtatctggcg gagaaccatg cacatcatga gtggtacctg  
 840  
 aagatccagc tagaagacat taagaattat caggaagccc ttcgatacat cggcaagctg  
 900  
 ccttttgagc aggagagag caacatgaag cgctacggca agatcctcat gcaccacata  
 960  
 ccagagcaga caactcagtt gctgaaggga ctttgtagctg attatcggcc cagcctcgaa  
 1020  
 ggccgcagcg atagggagcg cccaggctgc agggccaact ctgaggagtt catccccatc  
 1080  
 tttgccaata acccgcgaga gctgaaagcc ttctagagc acatgagtga agtgcagcca  
 1140  
 gactcacccc aggggatcta cgacacactc cttgagctgc gactgcagaa ctggggccac  
 1200  
 gagaaggatc c  
 1211

&lt;210&gt; 4050

&lt;211&gt; 403

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4050

Xaa	Leu	Ser	Asp	Pro	Ser	Gln	Asp	Leu	Gln	Phe	Ile	Val	Ala	Gly	Asp
1				5					10					15	
Glu	Cys	Val	Tyr	Leu	Tyr	Gln	Pro	Asp	Glu	Arg	Gly	Pro	Cys	Phe	Ala
			20					25					30		
Phe	Glu	Gly	His	Lys	Leu	Ile	Ala	His	Trp	Phe	Arg	Gly	Tyr	Leu	Ile
		35					40					45			
Ile	Val	Ser	Arg	Asp	Arg	Lys	Val	Ser	Pro	Lys	Ser	Glu	Phe	Thr	Ser
		50				55					60				
Arg	Asp	Ser	Gln	Ser	Ser	Asp	Lys	Gln	Ile	Leu	Asn	Ile	Tyr	Asp	Leu
65				70					75				80		
Cys	Asn	Lys	Phe	Ile	Ala	Tyr	Ser	Thr	Val	Phe	Glu	Asp	Val	Val	Asp
			85						90				95		
Val	Leu	Ala	Glu	Trp	Gly	Ser	Leu	Tyr	Val	Leu	Thr	Arg	Asp	Gly	Arg
		100					105						110		
Val	His	Ala	Leu	Gln	Glu	Lys	Asp	Thr	Gln	Thr	Lys	Leu	Glu	Met	Leu
		115					120					125			
Phe	Lys	Lys	Asn	Leu	Phe	Glu	Met	Ala	Ile	Asn	Leu	Ala	Lys	Ser	Gln
		130				135					140				
His	Leu	Asp	Ser	Asp	Gly	Leu	Ala	Gln	Ile	Phe	Met	Gln	Tyr	Gly	Asp
145				150					155					160	
His	Leu	Tyr	Ser	Lys	Gly	Asn	His	Asp	Gly	Ala	Val	Gln	Gln	Tyr	Ile
			165						170					175	
Arg	Thr	Ile	Gly	Lys	Leu	Glu	Pro	Ser	Tyr	Val	Ile	Arg	Lys	Phe	Leu
		180					185						190		
Asp	Ala	Gln	Arg	Ile	His	Asn	Leu	Thr	Ala	Tyr	Leu	Gln	Thr	Leu	His

195	200	205
Arg Gln Ser Leu Ala Asn Ala Asp His Thr Thr Leu Leu Leu Asn Cys		
210	215	220
Tyr Thr Lys Leu Lys Asp Ser Ser Lys Leu Glu Glu Phe Ile Lys Lys		
225	230	235
Lys Ser Glu Ser Glu Val His Phe Asp Val Glu Thr Ala Ile Lys Val		
245	250	255
Leu Arg Gln Ala Gly Tyr Tyr Ser His Ala Leu Tyr Leu Ala Glu Asn		
260	265	270
His Ala His His Glu Trp Tyr Leu Lys Ile Gln Leu Glu Asp Ile Lys		
275	280	285
Asn Tyr Gln Glu Ala Leu Arg Tyr Ile Gly Lys Leu Pro Phe Glu Gln		
290	295	300
Ala Glu Ser Asn Met Lys Arg Tyr Gly Lys Ile Leu Met His His Ile		
305	310	315
Pro Glu Gln Thr Thr Gln Leu Leu Lys Gly Leu Cys Thr Asp Tyr Arg		
325	330	335
Pro Ser Leu Glu Gly Arg Ser Asp Arg Glu Ala Pro Gly Cys Arg Ala		
340	345	350
Asn Ser Glu Glu Phe Ile Pro Ile Phe Ala Asn Asn Pro Arg Glu Leu		
355	360	365
Lys Ala Phe Leu Glu His Met Ser Glu Val Gln Pro Asp Ser Pro Gln		
370	375	380
Gly Ile Tyr Asp Thr Leu Leu Glu Leu Arg Leu Gln Asn Trp Ala His		
385	390	395
Glu Lys Asp		400

&lt;210&gt; 4051

&lt;211&gt; 1645

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4051

```

tttttttttt tttttttttt ttttttagag tcatgacctt atttatttac aagcacagga
60
taagtcccta acctcccca aagactgagc aacctaccc agcccagtta aatactgcaa
120
ctgggggggt aaaaaaggtc gggaggagga attaaggga atacaggaat aggggaacat
180
atcccacatt aaatagttat atatatacac atcagttcct gtggttctgt acagagcagc
240
ggctgacccc accccacag gacacaatgt ggggagagga gactgagggt actgaggcca
300
gagccaacct ctggtgaagt gcaatagcag cagcaaagtc ctaatggtgc acaagagggg
360
ggggaacccc cagggtacc caccaccacc ctgccctgga atgtgtaagg gacaggaatg
420
gctctcaggg agcacacagg aaggacaagg ctggaaccgt cttcagggcc cagttttaag
480
ggcaacgttt tgcctacttc accctagaca cagcaaccct tggaggaaag cagatgggtca
540
gcagtgtctt tatctgcccc tccaaacctt agtgaggggc tggttccttc ctacctctcc
600

```

ccagggaaaa ggaaggcagc tgcttggett ccttctagaa gccccgggag cctttaacta  
 660  
 ccccgactcc cttcgtagtg tcaactgtccc caccagggag gggccaggca cagtctgtgg  
 720  
 gtcacagggc tcaggagaag ttctggacag ggtggctgac cttcatacag gcccataaaa  
 780  
 gagcccgggc caaacacagc acagccaaca ggatgacaaa tgcccaggct gcatagatgc  
 840  
 ctccatatac cgtgcatgc ttccatgtgc caaaggcaag gccagtggca gtgactgcca  
 900  
 aaagcaagcc aagcaagaag cagcagatac atctcttacg tgggtatctg cgcccaatag  
 960  
 atgacacttt cctgcagtga ggacaacgtg ccaaagtgcg gtctgtgaac tctgtccaca  
 1020  
 gaaaagtatt cttgcaatgt ccacagataa ccctgacacc catgggttgg gggtctggac  
 1080  
 tcagaggtcc gggatgcaca ggccccaggc tgatgattct tttgcagtag ggccgagggc  
 1140  
 atgcaatccg ttgggatgtc actttgcaga taaggagaca gttacagggg catcgaacat  
 1200  
 attttttccc ctgggggtgc attcttgatt ggggtggctt cattgcagac accacatttg  
 1260  
 actacatgct gatgcatctt gccttccacg ttgatgagag attggcagac tcggcaggtg  
 1320  
 atcatagggg cactcccact gtccgggcta gttaagggtg aatagggggg tgggtcctcc  
 1380  
 ccaggcaaca cggtcgatg cccctcggga aacgggggaa atgcctgggg cggggcatgt  
 1440  
 ttaccggctc cgtacgggtg tgccggaggg gtcaggcctc ccccgggccc agccccactc  
 1500  
 ccgcccggcc cactaaacc gttgccgccc gcgccaccgt cgatgggctc agacagcagc  
 1560  
 ggggaacgct ctccatctcc gccatggcgg ccaccgccc ctcgcgtca ggtcggcgat  
 1620  
 ccggctccct tcgcctctgc cgtcg  
 1645

<210> 4052

<211> 93

<212> PRT

<213> Homo sapiens

<400> 4052

Gly	Gly	Gly	Ser	Ser	Pro	Gly	Asn	Thr	Ala	Gly	Cys	Pro	Ser	Gly	Asn
1				5				10						15	
Gly	Gly	Asn	Ala	Trp	Gly	Gly	Ala	Cys	Leu	Pro	Ala	Pro	Tyr	Gly	Gly
		20					25						30		
Ala	Glu	Gly	Val	Arg	Pro	Pro	Pro	Gly	Pro	Ala	Pro	Leu	Pro	Pro	Gly
		35					40					45			
Pro	Thr	Lys	Pro	Leu	Pro	Pro	Ala	Pro	Pro	Ser	Met	Gly	Ser	Asp	Ser
	50					55					60				
Ser	Gly	Glu	Arg	Ser	Pro	Ser	Pro	Pro	Trp	Pro	Pro	Pro	Pro	Pro	Pro
65					70				75					80	
Ala	Gln	Val	Gly	Asp	Pro	Ala	Pro	Phe	Ala	Ser	Ala	Val			

85

90

&lt;210&gt; 4053

&lt;211&gt; 461

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4053

gcagaatctt attttgagat acagtccctt cccacccttg ggggactagg ggtactaggg  
 60  
 agcgtctcat tcttctctcc tgagttccgg aatccacctc cgagagcgca gtctccaggc  
 120  
 tttcagcagc caggcaggcg ctccggcgaga aggggtttctg gaattcgagc gatgcggctt  
 180  
 tgctcaccag ggagccagcc cgggacccag aacttacacc cgggaccccg cgagtacagg  
 240  
 acaccggtgg ggacaggaat tatccccgc ccaggaggca ctgagaccct gcgggaggcg  
 300  
 tgccgccc taggggaggg gaggggaggg agccgccact cgtgtccgcg gagagtggg  
 360  
 aggcggtcgg ttttgaaagg cggccagggg agctttgtgc tgaaccggga gggccagatt  
 420  
 tactccctcg ggccttccgg agtcgctgcc cggaacgcg t  
 461

&lt;210&gt; 4054

&lt;211&gt; 96

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4054

Met	Arg	Leu	Cys	Ser	Pro	Gly	Ser	Gln	Pro	Gly	Thr	Gln	Asn	Leu	His
1			5						10					15	
Pro	Gly	Pro	Arg	Glu	Tyr	Arg	Thr	Pro	Val	Gly	Thr	Gly	Ile	Ile	Pro
			20					25					30		
Arg	Pro	Gly	Gly	Thr	Glu	Thr	Leu	Arg	Glu	Ala	Cys	Ala	Ala	Leu	Gly
			35				40					45			
Glu	Gly	Arg	Gly	Gly	Ser	Arg	His	Ser	Cys	Pro	Arg	Arg	Val	Gly	Arg
			50				55				60				
Arg	Ser	Val	Leu	Lys	Gly	Gly	Gln	Gly	Ser	Phe	Val	Leu	Asn	Arg	Glu
65				70					75					80	
Gly	Gln	Ile	Tyr	Ser	Leu	Gly	Pro	Ser	Gly	Val	Ala	Ala	Arg	Glu	Arg
				85					90					95	

&lt;210&gt; 4055

&lt;211&gt; 8458

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4055

tgtacccgaa ggattgttgg ggtagatgga gctataaaag cactttgtaa tcgtttggtt  
 60  
 gtagttgaac ttaacaacag gactagcaga gacttacctg aacagtgtgt aaaggtatta  
 120

taactgatat gtactcgtga gtcaagagca gtctttgagg ctggtggttt gaattgtgtg  
180  
cttaccttca ttcgcgacag gggacatcta ggtcataaag acaccttgca ctctgctatg  
240  
gctgtggtat caagactctg tggctaaatg gagcctcaag attcttcttt agaaatttgt  
300  
gtagagtctc tgtctagttt attaaagcat gaagatcatc aggtttcaga tggagctctg  
360  
cggtgttttg catcactagc tgaccggttt accegtcgtg gggtagaccc agctccattg  
420  
gccaaagcatg gattaactga ggagctgttg tctcgaatgg cagcggctgg tggtagtga  
480  
tcaggaccat catcagcatg caaaccaggt cgcagcacca caggagcccc atccaccact  
540  
gcagattcca aattgagtaa tcagggtgtca acaattgtaa gtctgctctc aacgctttgc  
600  
agaggctctc cggtagtaac acatgatctt ctgaggtcgg agcttccaga ttcaattgaa  
660  
agtgcattgc agggtagatga aagatgtgtg cttgatacta tgcgtttggt tgaccttctc  
720  
ttggtgctat tatttgaagg acgaaaagct ttgccaaagt ctagtgtctgg atctacaggc  
780  
agaatcccag gactccggag attagatagt tctggggagc gctcacatcg gcagcttata  
840  
gattgtattc gaagtaaaga taccgatgca cttatagatg caattgacac aggagccttt  
900  
gaagtaaatt ttatggatga tgtaggtcag actctattaa actgggcctc tgcttttggg  
960  
actcaggaaa tggtagaatt tctttgtgag agaggtgcag atgttaatag aggtcaaagg  
1020  
tcatcatcat tacattatgc tgcattgttt ggaagacctc aagtagcaaa gactctgtta  
1080  
cgcatggtg caaatccaga tctgagagat gaagatggga aaactccatt agataaagct  
1140  
cgagaaaggg gccatagtga agtggttagct attcttcagt ctccagggtga ttggatgtgt  
1200  
ccagttaata aaggagatga taagaaaaag aaagatacaa acaaagatga agaagaatgt  
1260  
aatgagccca aaggagatcc ggaaatggca cccatatact tgaaaagggt attgccagtg  
1320  
tttgacaaaa catttcagca aactatgctg ccttcaataa ggaaagcaag tcttgctcta  
1380  
attcgaaaaa tgattcattt ttgctctgaa gcactgttaa aagaagtttg tgattctgat  
1440  
gttggtcaca atttgcttac aatactagtg gaaatcactg caactgtcct ggatcaagag  
1500  
gatgatgatg atggccactt gctggctttg cagatcataa gggatttagt agataaaggt  
1560  
ggtgatatat ttttgatca gctagccaga cttggtgtaa ttagcaaagt gtcaacgttg  
1620  
gcaggctctt cctctgatga tgagaatgaa gaggaatcaa aaccagaaaa agaagatgaa  
1680  
ccacaggaag atgctaaaga attgcaacaa ggtaaaccat atcattggag agactggtca  
1740



atcattaggg gaagggactg cttatatatt tggagtgatg cagcagcctt ggaattatct  
1800  
aatggcagta atggatgggt cagatttatc ttggatggaa aacttgccac catgtattca  
1860  
agtggtagtc cggaaggtgg atctgacagt tcagaaagcc gaagtgaatt cttagagaag  
1920  
ttacaaagag ctcgaggcca agtaaagcca tctacttcaa gtcaacctat actgtcagca  
1980  
ccaggaccca ctaaacttac tgtaggaaat tggtcactga catgtttgaa agaaggagaa  
2040  
attgctattc ataattcaga tggtcagcaa gctacaatat tgaaagaaga tttacctggt  
2100  
tttgtatttg aatctaatag aggaaccaa cttcattta ctgcagaaac ttccttgggt  
2160  
tcagaatttg tgactggctg gactggcaaa agaggcagaa aactgaaatc taagttagaa  
2220  
aaaacaaagc anaaggtacg aactatggct cgagatttat acgatgacca ttttaaagct  
2280  
gttgaaagca tgcctcgtgg agtagtggta acactcagaa acatagcaac tcagttagag  
2340  
tcatcttggg aacttcatac aaatagacaa tgtattgaga gtgagaacac ttggagagat  
2400  
ttaatgaaga cagctttaga aaacctaatt gtacttttga aggatgaaaa cacaatttca  
2460  
ccatatgaaa tgtgtagcag tggcttggta caagcacttc ttactgtgtt aaacaatagc  
2520  
atggatttgg atatgaaaca agattgtagt caactggtag aaagaataaa tgtttttaaa  
2580  
actgccttta gtgaaaatga agatgatgaa agtcgaccag cagttgcgtt aattcgaaag  
2640  
ttaatagctg tactagaatc tattgaacgt ctacctctcc atttgtatga tacaccagga  
2700  
tccacatata acctccagat acttacaagg agattacgat ttcggttgga acgtgcacct  
2760  
ggtgaaactg cattgattga caggactggc agaatgttga agatggaacc tttggctaca  
2820  
gttgaatctc tggaaacagta ccttttgaaa atggtagcaa aacagtggta tgattttgac  
2880  
cgatcttcat ttgtttttgt tcgaaaatta agagaaggac aaaattttat atttcggcac  
2940  
cagcatgatt ttgatgaaaa tggaaatcatt tactggattg gaacaaatgc aaaaactgct  
3000  
tatgaatggg taaatccagc tgcctatgga cttgtagtag taacgtcatc agaaggaaga  
3060  
aatctacctt atggccgctt agaagacata ctaagtcgtg ataattcagc tttaaattgt  
3120  
catagcaatg atgataagaa tgcctgggtt gccatagatc tgggtctctg ggtgatacca  
3180  
tcagcatata cacttcgtca tgctcgtggg tatggaaggc ctgcactgag aaattgggtt  
3240  
ttccagggtat ccaaagatgg acagaactgg acttctttgt ataccatgt tgatgactgc  
3300  
agtctcaatg aaccagggtc aactgcaact tggcctcttg atccacaaa ggatgagaaa  
3360

caaggggtgga gacatgtgag aattaaacag atggggaaaa atgccagtgg acaaacacac  
3420  
tacctctcat tatctggatt cgaactttat ggcactgtaa atggagtatg tgaagatcag  
3480  
ctaggggaaag cagctaaaga agcagaagct aatcttagac ggcagagacg tctagtacgt  
3540  
tcccaggttc tgaaatacat ggttccagga gctcgtgta tcagaggcct ggattggaaa  
3600  
tgccgagatc aggatggcag cccacagga gaaggcactg tcacaggaga actacacaat  
3660  
ggctggattg atgtcacctg ggatgctggt ggctcaaact cttaccgtat gggcgcagaa  
3720  
ggaaaatttg acctcaagct tgcaccaggg tacgacctg atacagtggc atcacccaaa  
3780  
cctgtttcat ccactgtttc aggcacaacg caatcatgga gcagcttggg gaaaaacaac  
3840  
tgtccagaca agacatctgc tgctgcaggc tcctcaagta gaaaaggaag cagcagttct  
3900  
gtgtgtagcg tggccagtag cagcgacatc agcttgggtt cgacccaaac ggaacggaga  
3960  
tcagaaattg taatggaaca cagtatagtt tcaggagctg atgtccatga accaattggt  
4020  
gttctttcat ctgctgaaaa cgtccctcaa acagaagtag ggtcatcttc cagtgaagc  
4080  
accagcacct taacagcgga aacgggaagt gaaaatgctg aaaggaagtt aggcctgat  
4140  
agttctgttc gtactcctgg ggagtctagt gcaatatcca tgggaattgt cagtgttagt  
4200  
tctcctgatg ttagttcagt atctgaatta actaataaag aagcagcttc acaacgacct  
4260  
cttagctctt cagcaagtaa cagactgtca gtgagttctt tgttggtgc tggggccct  
4320  
atgagctcta gtgcaagtgt acctaacctg tcctcaagag aaacatctag cttggagagt  
4380  
tttgtaagga gagtggcaaa catagcacgg actaatgcca cgaacaacat gaatctaagc  
4440  
cgaagcagca gtgataacaa cactaatact ttggggagga atgtgatgag cacagcaact  
4500  
tctctctta tgggtgctca gaggttccct aatttgacca cacctggtac tacatcaaca  
4560  
gtgactatgt caacatccag tgttactagc agcagcaatg tagctacagc aacaacagtt  
4620  
ttatcagttg gtcaatcttt aagtaacact ttaaccacca gcctcacatc aacttccagt  
4680  
gagagtgaca caggtcagga agcagaatat tccttatatg atttccttga tagctgccgt  
4740  
gccagtactc tattggctga gctcgatgat gatgaggact tacctgagcc agatgaagaa  
4800  
gatgatgaga atgaagatga caatcaggag gaccaagaat acgaggaggt tatgattctg  
4860  
agacgcccac ccctgcaacg tcgagctggc tcccgctctg atgtaacgca tcatgctgtt  
4920  
acctgcagc taccacaggt acctgctgga gcagggagcc gacctattgg ggagcaggaa  
4980

gaagaagagt acgaaactaa aggaggacgc cggagaacat gggatgatga ttatgtgcta  
5040  
aagagacagt tttctgcatt ggttcctgct tttgatccta gacctggctg tactaatgtc  
5100  
cagcagacaa ctgatctaga aataccaccc ccagggaccc ctcattcaga gctcttgga  
5160  
gaagtcgaat gtactccgtc acctcgatta gctctcactt tgaaagtaac aggtcttgga  
5220  
acgactcgtg aagttgaatt accactcacc aatttcagat caaccatctt ttactatgta  
5280  
caaaaattgc ttcaattgtc ctgtaatggc aatgtgaaat cagataaact taggcgtatt  
5340  
tgggagccca catacacaat catgtacaga gaaatgaagg attctgataa agaaaaggaa  
5400  
aatggaaaaa tgggttgctg gtctatagag catgtggagc agtaccttg cactgatgaa  
5460  
ttaccaaaga atgacttgat aacctacctg cagaagaatg cagacgctgc tttcctgcgc  
5520  
cactggaaat taactggcac taataaaagt attaggaaaa acagaaattg ttctcagctc  
5580  
atagctgcat ataaggattt ttgtgagcat ggaacaaagt ctgggttaaa ccagggggcc  
5640  
atttctactc ttcaaagtag tgatattctt aatttaacaa aagaacaacc tcaggccaaa  
5700  
gcaggcaatg gacagaactc ttgtggagta gaagatgtcc ttcagcttct gcgtattctg  
5760  
tatatagttg caagtgacct ttattcaaga atatcccagg aagatggtga tgaacagcct  
5820  
cagtttactt ttccaccaga tgaattcact agcaaaaaaa ttacaacaaa aatattacag  
5880  
cagattgagg aaccattggc actggcaagt ggggctctgc cagactggtg tgaacaatta  
5940  
accagcaaat gtccttttct aataccattt gaaactagac agctttattt cacatgtaca  
6000  
tcatttggcg cctcaagagc aatagtatgg ttacagaacc gacgtgaagc cactgtggag  
6060  
cgaacgagaa ccacaagcag tgttaggcga gatgacctg gagagtctcg agttggtcgt  
6120  
ctcaagcatg aaagagtaaa agttccacgt ggcgagtcac tgatggaatg ggctgagaat  
6180  
gtcatgcaaa tacatgcaga tcggaaatca gttcttgagg ttgaattttt aggagaagaa  
6240  
ggaactggct tgggaccac attagagttt tatgctctgg tggcagcaga attccagaga  
6300  
actgacttgg gagcttggct ttgtgatgat aattttccag atgatgaatc tcgtcacgtt  
6360  
gatcttggag gtggattgaa acctcctgga tattatgtgc agaggtcatg tggactgttc  
6420  
acagcaccat ttccacagga tagtgatgag cttgaaagga tcacgaaact gtttcatttc  
6480  
cttggattt tcttggccaa atgcattcaa gacaatagac ttgtggactt acctatttct  
6540  
aaacctttt ttaaacttat gtgtatgggt gacattaaaa gcaatatgag taaactgatt  
6600

tatgagtcac gaggtgatag agacttacac tgtactgaaa gtcagtctga agcttctaca  
6660  
gaagaaggtc atgattcact ctoggtagga agctttgaag aggattcaaa atcagaattt  
6720  
attcttgatc cccctaaacc aaaaccccca gcttggctta atggaatttt gacttgggaa  
6780  
gactttgaat tagtaaacc acacagagcc agatttttaa aagaaattaa agaccttgct  
6840  
atcaagaggc gccaaatttt aagcaacaaa ggtctttctg aagatgagaa gaacacaaaa  
6900  
ttacaggaac tagtgctgaa gaatccatca ggttctgggc ctccacttag catagaggat  
6960  
ttaggtttta atttccagtt ttgcccttcc tcaagaatat atgggttttac agctgtggat  
7020  
ctcaagccaa gtggtgaaga tgagatgata acaatggata atgcagaaga atatgtggat  
7080  
ttgatgtttg acttttgtat gcatacgggt attcagaaac aaatggaagc ctttagagat  
7140  
gggttttaata aagtttttcc aatggagaaa ttaagttcct tcagccatga agaagtccaa  
7200  
atgattcttt gtggaaacca gtcaccatcc tgggcagcag aggatattat caattacact  
7260  
gaacctaaagc tgggttatac acgtgacagc cctgggttcc tgaggtttgt gagggtttta  
7320  
tgtggcatgt cttctgatga aaggaaagca ttcttgcatg ttaccactgg ttgttcaact  
7380  
ctacccccag gtggactggc taacctgcat ccaggetca cggttgtagc caaggttgat  
7440  
gctactgatg caagctatcc atcagtcaat acatgtgtgc attaccttaa gttgcctgaa  
7500  
tattcttccg aggagatcat gagagagcgc ctgctagctg ctacaatgga gaaaggcttt  
7560  
catctcaatt gagctttgaa gtgcaatggg agacatcaga gactttaaaa atactagtga  
7620  
agcctcttgt gtttgtgtgc agagaagtat atgatccacc atgctaata cacttgccct  
7680  
tttttccacc attaaggctt taagaacatg tggaataagt tttttagctg ctaatgacaa  
7740  
aacaatcct gtaactaccc agccagcaag tatatagcac agaactgt gttactttac  
7800  
aagggttat gtgactgga taagggtggt ccacttgact gttccaaaga gcagcttctc  
7860  
agatcttcag tgttactgg taaatttcta acagtgtatt tgtgtaaagt ttgtcatttc  
7920  
atactccata cactacagtt gctgtcactg atccctgttt tgctggcttt taagctactt  
7980  
ggtcaaaaat cctgcttct taaaacatag agaattaatg agcatctcaa gcttttctt  
8040  
ttctttttta atgatgcctg cactatcaag agtattctag tgttctctct ttgtttggca  
8100  
tataatcatg caccaaactt tttatttctt taagggtgga gtatattttt atttctaaa  
8160  
tgccatacta tgaagatcaa agtcttaagt gtgtttgcag ctcaaaaata aagatgtatt  
8220

aaggggggaa aacctggtct aagtgaagg cacacttaca gcgagtttta ctttcggttg  
 8280  
 tattttcttt gtatattata aacatttatt taacttggtg ccgtttgaag taaaaaattt  
 8340  
 ccaaaatgta tgctcaacaa taatcattaa aatgtttgca gcgtaaaaaa aaaaaaaaaa  
 8400  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 8458

<210> 4056

<211> 2434

<212> PRT

<213> Homo sapiens

<400> 4056

Met	Glu	Pro	Gln	Asp	Ser	Ser	Leu	Glu	Ile	Cys	Val	Glu	Ser	Leu	Ser	1	5	10	15
Ser	Leu	Leu	Lys	His	Glu	Asp	His	Gln	Val	Ser	Asp	Gly	Ala	Leu	Arg	20	25	30	
Cys	Phe	Ala	Ser	Leu	Ala	Asp	Arg	Phe	Thr	Arg	Arg	Gly	Val	Asp	Pro	35	40	45	
Ala	Pro	Leu	Ala	Lys	His	Gly	Leu	Thr	Glu	Glu	Leu	Leu	Ser	Arg	Met	50	55	60	
Ala	Ala	Ala	Gly	Gly	Thr	Val	Ser	Gly	Pro	Ser	Ser	Ala	Cys	Lys	Pro	65	70	75	80
Gly	Arg	Ser	Thr	Thr	Gly	Ala	Pro	Ser	Thr	Thr	Ala	Asp	Ser	Lys	Leu	85	90	95	
Ser	Asn	Gln	Val	Ser	Thr	Ile	Val	Ser	Leu	Leu	Ser	Thr	Leu	Cys	Arg	100	105	110	
Gly	Ser	Pro	Val	Val	Thr	His	Asp	Leu	Leu	Arg	Ser	Glu	Leu	Pro	Asp	115	120	125	
Ser	Ile	Glu	Ser	Ala	Leu	Gln	Gly	Asp	Glu	Arg	Cys	Val	Leu	Asp	Thr	130	135	140	
Met	Arg	Leu	Val	Asp	Leu	Leu	Leu	Val	Leu	Leu	Phe	Glu	Gly	Arg	Lys	145	150	155	160
Ala	Leu	Pro	Lys	Ser	Ser	Ala	Gly	Ser	Thr	Gly	Arg	Ile	Pro	Gly	Leu	165	170	175	
Arg	Arg	Leu	Asp	Ser	Ser	Gly	Glu	Arg	Ser	His	Arg	Gln	Leu	Ile	Asp	180	185	190	
Cys	Ile	Arg	Ser	Lys	Asp	Thr	Asp	Ala	Leu	Ile	Asp	Ala	Ile	Asp	Thr	195	200	205	
Gly	Ala	Phe	Glu	Val	Asn	Phe	Met	Asp	Asp	Val	Gly	Gln	Thr	Leu	Leu	210	215	220	
Asn	Trp	Ala	Ser	Ala	Phe	Gly	Thr	Gln	Glu	Met	Val	Glu	Phe	Leu	Cys	225	230	235	240
Glu	Arg	Gly	Ala	Asp	Val	Asn	Arg	Gly	Gln	Arg	Ser	Ser	Ser	Leu	His	245	250	255	
Tyr	Ala	Ala	Cys	Phe	Gly	Arg	Pro	Gln	Val	Ala	Lys	Thr	Leu	Leu	Arg	260	265	270	
His	Gly	Ala	Asn	Pro	Asp	Leu	Arg	Asp	Glu	Asp	Gly	Lys	Thr	Pro	Leu	275	280	285	
Asp	Lys	Ala	Arg	Glu	Arg	Gly	His	Ser	Glu	Val	Val	Ala	Ile	Leu	Gln	290	295	300	
Ser	Pro	Gly	Asp	Trp	Met	Cys	Pro	Val	Asn	Lys	Gly	Asp	Asp	Lys	Lys				

```

305          310          315          320
Lys Lys Asp Thr Asn Lys Asp Glu Glu Glu Cys Asn Glu Pro Lys Gly
          325          330          335
Asp Pro Glu Met Ala Pro Ile Tyr Leu Lys Arg Leu Leu Pro Val Phe
          340          345          350
Ala Gln Thr Phe Gln Gln Thr Met Leu Pro Ser Ile Arg Lys Ala Ser
          355          360          365
Leu Ala Leu Ile Arg Lys Met Ile His Phe Cys Ser Glu Ala Leu Leu
          370          375          380
Lys Glu Val Cys Asp Ser Asp Val Gly His Asn Leu Pro Thr Ile Leu
385          390          395          400
Val Glu Ile Thr Ala Thr Val Leu Asp Gln Glu Asp Asp Asp Asp Gly
          405          410          415
His Leu Leu Ala Leu Gln Ile Ile Arg Asp Leu Val Asp Lys Gly Gly
          420          425          430
Asp Ile Phe Leu Asp Gln Leu Ala Arg Leu Gly Val Ile Ser Lys Val
          435          440          445
Ser Thr Leu Ala Gly Pro Ser Ser Asp Asp Glu Asn Glu Glu Glu Ser
          450          455          460
Lys Pro Glu Lys Glu Asp Glu Pro Gln Glu Asp Ala Lys Glu Leu Gln
465          470          475          480
Gln Gly Lys Pro Tyr His Trp Arg Asp Trp Ser Ile Ile Arg Gly Arg
          485          490          495
Asp Cys Leu Tyr Ile Trp Ser Asp Ala Ala Ala Leu Glu Leu Ser Asn
          500          505          510
Gly Ser Asn Gly Trp Phe Arg Phe Ile Leu Asp Gly Lys Leu Ala Thr
          515          520          525
Met Tyr Ser Ser Gly Ser Pro Glu Gly Gly Ser Asp Ser Ser Glu Ser
          530          535          540
Arg Ser Glu Phe Leu Glu Lys Leu Gln Arg Ala Arg Gly Gln Val Lys
545          550          555          560
Pro Ser Thr Ser Ser Gln Pro Ile Leu Ser Ala Pro Gly Pro Thr Lys
          565          570          575
Leu Thr Val Gly Asn Trp Ser Leu Thr Cys Leu Lys Glu Gly Glu Ile
          580          585          590
Ala Ile His Asn Ser Asp Gly Gln Gln Ala Thr Ile Leu Lys Glu Asp
          595          600          605
Leu Pro Gly Phe Val Phe Glu Ser Asn Arg Gly Thr Lys His Ser Phe
          610          615          620
Thr Ala Glu Thr Ser Leu Gly Ser Glu Phe Val Thr Gly Trp Thr Gly
625          630          635          640
Lys Arg Gly Arg Lys Leu Lys Ser Lys Leu Glu Lys Thr Lys Xaa Lys
          645          650          655
Val Arg Thr Met Ala Arg Asp Leu Tyr Asp Asp His Phe Lys Ala Val
          660          665          670
Glu Ser Met Pro Arg Gly Val Val Val Thr Leu Arg Asn Ile Ala Thr
          675          680          685
Gln Leu Glu Ser Ser Trp Glu Leu His Thr Asn Arg Gln Cys Ile Glu
          690          695          700
Ser Glu Asn Thr Trp Arg Asp Leu Met Lys Thr Ala Leu Glu Asn Leu
705          710          715          720
Ile Val Leu Leu Lys Asp Glu Asn Thr Ile Ser Pro Tyr Glu Met Cys
          725          730          735
Ser Ser Gly Leu Val Gln Ala Leu Leu Thr Val Leu Asn Asn Ser Met

```

740										745					750						
Asp	Leu	Asp	Met	Lys	Gln	Asp	Cys	Ser	Gln	Leu	Val	Glu	Arg	Ile	Asn						
755										760					765						
Val	Phe	Lys	Thr	Ala	Phe	Ser	Glu	Asn	Glu	Asp	Asp	Glu	Ser	Arg	Pro						
770										775					780						
Ala	Val	Ala	Leu	Ile	Arg	Lys	Leu	Ile	Ala	Val	Leu	Glu	Ser	Ile	Glu						
785										790					795						
Arg	Leu	Pro	Leu	His	Leu	Tyr	Asp	Thr	Pro	Gly	Ser	Thr	Tyr	Asn	Leu						
805										810					815						
Gln	Ile	Leu	Thr	Arg	Arg	Leu	Arg	Phe	Arg	Leu	Glu	Arg	Ala	Pro	Gly						
820										825					830						
Glu	Thr	Ala	Leu	Ile	Asp	Arg	Thr	Gly	Arg	Met	Leu	Lys	Met	Glu	Pro						
835										840					845						
Leu	Ala	Thr	Val	Glu	Ser	Leu	Glu	Gln	Tyr	Leu	Leu	Lys	Met	Val	Ala						
850										855					860						
Lys	Gln	Trp	Tyr	Asp	Phe	Asp	Arg	Ser	Ser	Phe	Val	Phe	Val	Arg	Lys						
865										870					875						
Leu	Arg	Glu	Gly	Gln	Asn	Phe	Ile	Phe	Arg	His	Gln	His	Asp	Phe	Asp						
885										890					895						
Glu	Asn	Gly	Ile	Tyr	Trp	Ile	Gly	Thr	Asn	Ala	Lys	Thr	Ala	Tyr							
900										905					910						
Glu	Trp	Val	Asn	Pro	Ala	Ala	Tyr	Gly	Leu	Val	Val	Val	Thr	Ser	Ser						
915										920					925						
Glu	Gly	Arg	Asn	Leu	Pro	Tyr	Gly	Arg	Leu	Glu	Asp	Ile	Leu	Ser	Arg						
930										935					940						
Asp	Asn	Ser	Ala	Leu	Asn	Cys	His	Ser	Asn	Asp	Asp	Lys	Asn	Ala	Trp						
945										950					955						
Phe	Ala	Ile	Asp	Leu	Gly	Leu	Trp	Val	Ile	Pro	Ser	Ala	Tyr	Thr	Leu						
965										970					975						
Arg	His	Ala	Arg	Gly	Tyr	Gly	Arg	Ser	Ala	Leu	Arg	Asn	Trp	Val	Phe						
980										985					990						
Gln	Val	Ser	Lys	Asp	Gly	Gln	Asn	Trp	Thr	Ser	Leu	Tyr	Thr	His	Val						
995										1000					1005						
Asp	Asp	Cys	Ser	Leu	Asn	Glu	Pro	Gly	Ser	Thr	Ala	Thr	Trp	Pro	Leu						
1010										1015					1020						
Asp	Pro	Pro	Lys	Asp	Glu	Lys	Gln	Gly	Trp	Arg	His	Val	Arg	Ile	Lys						
1025										1030					1035						
Gln	Met	Gly	Lys	Asn	Ala	Ser	Gly	Gln	Thr	His	Tyr	Leu	Ser	Leu	Ser						
1045										1050					1055						
Gly	Phe	Glu	Leu	Tyr	Gly	Thr	Val	Asn	Gly	Val	Cys	Glu	Asp	Gln	Leu						
1060										1065					1070						
Gly	Lys	Ala	Ala	Lys	Glu	Ala	Glu	Ala	Asn	Leu	Arg	Arg	Gln	Arg	Arg						
1075										1080					1085						
Leu	Val	Arg	Ser	Gln	Val	Leu	Lys	Tyr	Met	Val	Pro	Gly	Ala	Arg	Val						
1090										1095					1100						
Ile	Arg	Gly	Leu	Asp	Trp	Lys	Trp	Arg	Asp	Gln	Asp	Gly	Ser	Pro	Gln						
1105										1110					1115						
Gly	Glu	Gly	Thr	Val	Thr	Gly	Glu	Leu	His	Asn	Gly	Trp	Ile	Asp	Val						
1125										1130					1135						
Thr	Trp	Asp	Ala	Gly	Gly	Ser	Asn	Ser	Tyr	Arg	Met	Gly	Ala	Glu	Gly						
1140										1145					1150						
Lys	Phe	Asp	Leu	Lys	Leu	Ala	Pro	Gly	Tyr	Asp	Pro	Asp	Thr	Val	Ala						
1155										1160					1165						
Ser	Pro	Lys	Pro	Val	Ser	Ser	Thr	Val	Ser	Gly	Thr	Thr	Gln	Ser	Trp						

1170	1175	1180
Ser Ser Leu Val Lys Asn Asn Cys Pro Asp Lys Thr Ser Ala Ala Ala		
1185	1190	1195
Gly Ser Ser Ser Arg Lys Gly Ser Ser Ser Ser Val Cys Ser Val Ala		1200
	1205	1210
Ser Ser Ser Asp Ile Ser Leu Gly Ser Thr Lys Thr Glu Arg Arg Ser		1215
	1220	1225
Glu Ile Val Met Glu His Ser Ile Val Ser Gly Ala Asp Val His Glu		1230
	1235	1240
Pro Ile Val Val Leu Ser Ser Ala Glu Asn Val Pro Gln Thr Glu Val		1245
	1250	1255
Gly Ser Ser Ser Ser Ala Ser Thr Ser Thr Leu Thr Ala Glu Thr Gly		1260
1265	1270	1275
Ser Glu Asn Ala Glu Arg Lys Leu Gly Pro Asp Ser Ser Val Arg Thr		1280
	1285	1290
Pro Gly Glu Ser Ser Ala Ile Ser Met Gly Ile Val Ser Val Ser Ser		1295
	1300	1305
Pro Asp Val Ser Ser Val Ser Glu Leu Thr Asn Lys Glu Ala Ala Ser		1310
	1315	1320
Gln Arg Pro Leu Ser Ser Ser Ala Ser Asn Arg Leu Ser Val Ser Ser		1325
	1330	1335
Leu Leu Ala Ala Gly Ala Pro Met Ser Ser Ser Ala Ser Val Pro Asn		1340
1345	1350	1355
Leu Ser Ser Arg Glu Thr Ser Ser Leu Glu Ser Phe Val Arg Arg Val		1360
	1365	1370
Ala Asn Ile Ala Arg Thr Asn Ala Thr Asn Asn Met Asn Leu Ser Arg		1375
	1380	1385
Ser Ser Ser Asp Asn Asn Thr Asn Thr Leu Gly Arg Asn Val Met Ser		1390
	1395	1400
Thr Ala Thr Ser Pro Leu Met Gly Ala Gln Ser Phe Pro Asn Leu Thr		1405
	1410	1415
Thr Pro Gly Thr Thr Ser Thr Val Thr Met Ser Thr Ser Ser Val Thr		1420
1425	1430	1435
Ser Ser Ser Asn Val Ala Thr Ala Thr Thr Val Leu Ser Val Gly Gln		1440
	1445	1450
Ser Leu Ser Asn Thr Leu Thr Thr Ser Leu Thr Ser Thr Ser Ser Glu		1455
	1460	1465
Ser Asp Thr Gly Gln Glu Ala Glu Tyr Ser Leu Tyr Asp Phe Leu Asp		1470
	1475	1480
Ser Cys Arg Ala Ser Thr Leu Leu Ala Glu Leu Asp Asp Glu Asp		1485
	1490	1495
Leu Pro Glu Pro Asp Glu Glu Asp Asp Glu Asn Glu Asp Asp Asn Gln		1500
1505	1510	1515
Glu Asp Gln Glu Tyr Glu Glu Val Met Ile Leu Arg Arg Pro Ser Leu		1520
	1525	1530
Gln Arg Arg Ala Gly Ser Arg Ser Asp Val Thr His His Ala Val Thr		1535
	1540	1545
Ser Gln Leu Pro Gln Val Pro Ala Gly Ala Gly Ser Arg Pro Ile Gly		1550
	1555	1560
Glu Gln Glu Glu Glu Glu Tyr Glu Thr Lys Gly Gly Arg Arg Arg Thr		1565
	1570	1575
Trp Asp Asp Asp Tyr Val Leu Lys Arg Gln Phe Ser Ala Leu Val Pro		1580
1585	1590	1595
Ala Phe Asp Pro Arg Pro Gly Arg Thr Asn Val Gln Gln Thr Thr Asp		1600



1605 1610 1615  
 Leu Glu Ile Pro Pro Pro Gly Thr Pro His Ser Glu Leu Leu Glu Glu  
 1620 1625 1630  
 Val Glu Cys Thr Pro Ser Pro Arg Leu Ala Leu Thr Leu Lys Val Thr  
 1635 1640 1645  
 Gly Leu Gly Thr Thr Arg Glu Val Glu Leu Pro Leu Thr Asn Phe Arg  
 1650 1655 1660  
 Ser Thr Ile Phe Tyr Tyr Val Gln Lys Leu Leu Gln Leu Ser Cys Asn  
 1665 1670 1675 1680  
 Gly Asn Val Lys Ser Asp Lys Leu Arg Arg Ile Trp Glu Pro Thr Tyr  
 1685 1690 1695  
 Thr Ile Met Tyr Arg Glu Met Lys Asp Ser Asp Lys Glu Lys Glu Asn  
 1700 1705 1710  
 Gly Lys Met Gly Cys Trp Ser Ile Glu His Val Glu Gln Tyr Leu Gly  
 1715 1720 1725  
 Thr Asp Glu Leu Pro Lys Asn Asp Leu Ile Thr Tyr Leu Gln Lys Asn  
 1730 1735 1740  
 Ala Asp Ala Ala Phe Leu Arg His Trp Lys Leu Thr Gly Thr Asn Lys  
 1745 1750 1755 1760  
 Ser Ile Arg Lys Asn Arg Asn Cys Ser Gln Leu Ile Ala Ala Tyr Lys  
 1765 1770 1775  
 Asp Phe Cys Glu His Gly Thr Lys Ser Gly Leu Asn Gln Gly Ala Ile  
 1780 1785 1790  
 Ser Thr Leu Gln Ser Ser Asp Ile Leu Asn Leu Thr Lys Glu Gln Pro  
 1795 1800 1805  
 Gln Ala Lys Ala Gly Asn Gly Gln Asn Ser Cys Gly Val Glu Asp Val  
 1810 1815 1820  
 Leu Gln Leu Leu Arg Ile Leu Tyr Ile Val Ala Ser Asp Pro Tyr Ser  
 1825 1830 1835 1840  
 Arg Ile Ser Gln Glu Asp Gly Asp Glu Gln Pro Gln Phe Thr Phe Pro  
 1845 1850 1855  
 Pro Asp Glu Phe Thr Ser Lys Lys Ile Thr Thr Lys Ile Leu Gln Gln  
 1860 1865 1870  
 Ile Glu Glu Pro Leu Ala Leu Ala Ser Gly Ala Leu Pro Asp Trp Cys  
 1875 1880 1885  
 Glu Gln Leu Thr Ser Lys Cys Pro Phe Leu Ile Pro Phe Glu Thr Arg  
 1890 1895 1900  
 Gln Leu Tyr Phe Thr Cys Thr Ser Phe Gly Ala Ser Arg Ala Ile Val  
 1905 1910 1915 1920  
 Trp Leu Gln Asn Arg Arg Glu Ala Thr Val Glu Arg Thr Arg Thr Thr  
 1925 1930 1935  
 Ser Ser Val Arg Arg Asp Asp Pro Gly Glu Phe Arg Val Gly Arg Leu  
 1940 1945 1950  
 Lys His Glu Arg Val Lys Val Pro Arg Gly Glu Ser Leu Met Glu Trp  
 1955 1960 1965  
 Ala Glu Asn Val Met Gln Ile His Ala Asp Arg Lys Ser Val Leu Glu  
 1970 1975 1980  
 Val Glu Phe Leu Gly Glu Glu Gly Thr Gly Leu Gly Pro Thr Leu Glu  
 1985 1990 1995 2000  
 Phe Tyr Ala Leu Val Ala Ala Glu Phe Gln Arg Thr Asp Leu Gly Ala  
 2005 2010 2015  
 Trp Leu Cys Asp Asp Asn Phe Pro Asp Asp Glu Ser Arg His Val Asp  
 2020 2025 2030  
 Leu Gly Gly Gly Leu Lys Pro Pro Gly Tyr Tyr Val Gln Arg Ser Cys

2035                      2040                      2045  
 Gly Leu Phe Thr Ala Pro Phe Pro Gln Asp Ser Asp Glu Leu Glu Arg  
 2050                      2055                      2060  
 Ile Thr Lys Leu Phe His Phe Leu Gly Ile Phe Leu Ala Lys Cys Ile  
 2065                      2070                      2075                      2080  
 Gln Asp Asn Arg Leu Val Asp Leu Pro Ile Ser Lys Pro Phe Phe Lys  
 2085                      2090                      2095  
 Leu Met Cys Met Gly Asp Ile Lys Ser Asn Met Ser Lys Leu Ile Tyr  
 2100                      2105                      2110  
 Glu Ser Arg Gly Asp Arg Asp Leu His Cys Thr Glu Ser Gln Ser Glu  
 2115                      2120                      2125  
 Ala Ser Thr Glu Glu Gly His Asp Ser Leu Ser Val Gly Ser Phe Glu  
 2130                      2135                      2140  
 Glu Asp Ser Lys Ser Glu Phe Ile Leu Asp Pro Pro Lys Pro Lys Pro  
 2145                      2150                      2155                      2160  
 Pro Ala Trp Leu Asn Gly Ile Leu Thr Trp Glu Asp Phe Glu Leu Val  
 2165                      2170                      2175  
 Asn Pro His Arg Ala Arg Phe Leu Lys Glu Ile Lys Asp Leu Ala Ile  
 2180                      2185                      2190  
 Lys Arg Arg Gln Ile Leu Ser Asn Lys Gly Leu Ser Glu Asp Glu Lys  
 2195                      2200                      2205  
 Asn Thr Lys Leu Gln Glu Leu Val Leu Lys Asn Pro Ser Gly Ser Gly  
 2210                      2215                      2220  
 Pro Pro Leu Ser Ile Glu Asp Leu Gly Leu Asn Phe Gln Phe Cys Pro  
 2225                      2230                      2235                      2240  
 Ser Ser Arg Ile Tyr Gly Phe Thr Ala Val Asp Leu Lys Pro Ser Gly  
 2245                      2250                      2255  
 Glu Asp Glu Met Ile Thr Met Asp Asn Ala Glu Glu Tyr Val Asp Leu  
 2260                      2265                      2270  
 Met Phe Asp Phe Cys Met His Thr Gly Ile Gln Lys Gln Met Glu Ala  
 2275                      2280                      2285  
 Phe Arg Asp Gly Phe Asn Lys Val Phe Pro Met Glu Lys Leu Ser Ser  
 2290                      2295                      2300  
 Phe Ser His Glu Glu Val Gln Met Ile Leu Cys Gly Asn Gln Ser Pro  
 2305                      2310                      2315                      2320  
 Ser Trp Ala Ala Glu Asp Ile Ile Asn Tyr Thr Glu Pro Lys Leu Gly  
 2325                      2330                      2335  
 Tyr Thr Arg Asp Ser Pro Gly Phe Leu Arg Phe Val Arg Val Leu Cys  
 2340                      2345                      2350  
 Gly Met Ser Ser Asp Glu Arg Lys Ala Phe Leu Gln Phe Thr Thr Gly  
 2355                      2360                      2365  
 Cys Ser Thr Leu Pro Pro Gly Gly Leu Ala Asn Leu His Pro Arg Leu  
 2370                      2375                      2380  
 Thr Val Val Arg Lys Val Asp Ala Thr Asp Ala Ser Tyr Pro Ser Val  
 2385                      2390                      2395                      2400  
 Asn Thr Cys Val His Tyr Leu Lys Leu Pro Glu Tyr Ser Ser Glu Glu  
 2405                      2410                      2415  
 Ile Met Arg Glu Arg Leu Leu Ala Ala Thr Met Glu Lys Gly Phe His  
 2420                      2425                      2430  
 Leu Asn

&lt;210&gt; 4057

&lt;211&gt; 533

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4057

g c g c g c c t c c a c c t g c t a g a c c a g g t g t t t t t c c a g g a g c t g c t g a a g a c a g c c c g c a g c  
60  
a g c a a g g c c t t c c c a g a g g a t g t g g t c a g g g t c a t c t t c t c c a a c a t c t c c t c c a t c t a t  
120  
c a g t t c c a t t c t c a g t t c t t c c t c c c a g a g c t g c a g c g g c g c c t g g a c g a c t g g a c a g c t  
180  
a a c c c c c g c a t c g g t g a c g t g a t c c a g a a g c t g g c c c c c t t c c t g a a g a t g t a c a g t g a g  
240  
t a t g t c a a g a a c t t t g a g c g a g c g g c t g a g c t g t g g c c a c c t g g a c c g a c a a g t c t c c a  
300  
c t c t t c c a g g a g g t t c t c a c t c g c a t c c a g g t g a g g c t g g g g g g g c t g a g t c a g c a t  
360  
t g c c a c t c c c a g c a t g c a g t g g c t c a g g t t g c c t t g a g t g a t t c c g g g c a t c t c c c a g g c  
420  
t c a g t g c t t c c a t a g g c c c c t g c c t a c t c g t c c g g c c c t c a g g a g c a g c c t g a c c c a c c  
480  
t c c c t t c t c t c a c c c t c t c c g t g t t g e t c c c c a t c c c t c c c a a g a g c a g c g  
533

&lt;210&gt; 4058

&lt;211&gt; 157

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4058

Ala	Arg	Leu	His	Leu	Leu	Asp	Gln	Val	Phe	Phe	Gln	Glu	Leu	Leu	Lys
1			5					10					15		
Thr	Ala	Arg	Ser	Ser	Lys	Ala	Phe	Pro	Glu	Asp	Val	Val	Arg	Val	Ile
			20				25					30			
Phe	Ser	Asn	Ile	Ser	Ser	Ile	Tyr	Gln	Phe	His	Ser	Gln	Phe	Phe	Leu
		35				40					45				
Pro	Glu	Leu	Gln	Arg	Arg	Leu	Asp	Asp	Trp	Thr	Ala	Asn	Pro	Arg	Ile
		50				55				60					
Gly	Asp	Val	Ile	Gln	Lys	Leu	Ala	Pro	Phe	Leu	Lys	Met	Tyr	Ser	Glu
65				70					75					80	
Tyr	Val	Lys	Asn	Phe	Glu	Arg	Ala	Ala	Glu	Leu	Leu	Ala	Thr	Trp	Thr
			85					90					95		
Asp	Lys	Ser	Pro	Leu	Phe	Gln	Glu	Val	Leu	Thr	Arg	Ile	Gln	Val	Arg
			100					105					110		
Leu	Gly	Glu	Gly	Trp	Ser	Gln	His	Cys	His	Ser	Gln	His	Ala	Val	Ala
			115				120					125			
Gln	Val	Ala	Leu	Ser	Asp	Ser	Gly	His	Leu	Pro	Gly	Ser	Ala	Ala	Ser
		130				135					140				
Ile	Gly	Pro	Cys	Leu	Leu	Val	Arg	Pro	Ser	Gly	Ala	Ala			
145					150					155					

&lt;210&gt; 4059

&lt;211&gt; 3994

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<400> 4059  
ngtccaggtc ctcgcatagt ttgggccttt aaagtcggcc atcccagatt gagggggcct  
60  
gacccttggg cgaggccgcc gcctctcagt tttggggcgg tggcgacccc agtccgggag  
120  
tggccccggg aggtccccgc agggcggcag gagctccgag gccattggct ggcgcgcggg  
180  
ctgccaaggg gcggggagcg ccgccgaagg ggactgtttg ctccacggg ctgtagatgg  
240  
agctgtccgg ccccgagag ggggaaggcg cctggaaaac gttcttcttc tccctggccg  
300  
accgagcgg ggaacagcac tcccaggatg cagtttgtgt caacacggcc gcagcctcag  
360  
cagctgggca tccagggcct ggggctggac agcgggagct ggagctgggc ccaggctctg  
420  
cccccgagg aggtctgcca ccaggagccg gcgctgcgcg gggaaatggc cgagggaatg  
480  
ccgcccagtc aggtcaaga atgggacatg gacgcccggc ggccaatgcc ttttcagttc  
540  
ccacccttcc cagatagggc acctgtcttc cccgaccgca tgatgcgaga gccccagttg  
600  
cccacagcag agatctcact ctggactgtg gtggctgcca ttcaggccat ggagaggaag  
660  
attgaatcgc aggtgtctca cctgctttcc ctagaaggtc aaaccgggat ggcgagaag  
720  
aagctggctg attgcgagaa gacagctgtg gagttcggga accagctgga gggcaagtgg  
780  
gccgtgctgg ggaccctgct gcaggagtac gggctgctgc agaggcggct ggagaacgtg  
840  
gagaacttgc tgcgcaacag gaacttctgg gtcctgcggc tgcccccggg cagcaagggg  
900  
gaggccccca aggttccagt gacttttgtc gacattgctg tgtacttctc cgaagacgag  
960  
tggaagaact tggacgaatg gcagaaggag ctttataaca accttgtaa ggagaactac  
1020  
aaaaccctca tgteccctga cgcggagggc tcagtcccca agccagatgc tccagtccag  
1080  
gctgagccca ggaagaacc ttgtgtgtgg gagcagcgcc accccgaaga gagagaaatc  
1140  
ccaatggatc ccgaagcagg agcagagccc ctggtgcctg cccaggatgc gtccctccag  
1200  
gtgaagcgtg aggacaccct gtgtgtccgg ggtcagcggg gcctggagga aagagccatc  
1260  
cctacggaat ccattaccgt agactcccca atttctgccc aggacctctt gtcccggatt  
1320  
aaacaggagg agcatcagt cgtgtgggat cagcaggatt tggcagacag agatattccc  
1380  
acggatccca attcagagtc tctcatctca gcacatgaca ttttgtcatg gatcaagcag  
1440  
gaggagcagc catacccatg gggaccacgc gactcaatgg acggagagct tggattagac  
1500  
tctggcccta gtgacagcct gctgatgggt aagaaccac ccccgcccc gccacagccc  
1560

cagccccagc cccagccacc gcagccgcag ctgcagtcgc agccccagcc ccagagcctg  
1620  
ccccccatcg cgggtggccga gaaccgggc ggccccccga gccgagggct gctggacgac  
1680  
ggttttccagg tgctgcccgg ggagcgtggc tccggcgagg cgcgcggggg tggggaccgc  
1740  
agcaccgggg gcggcggggg cgatgggggc ggtgggggcg gcggcgcgga ggcggggacg  
1800  
ggggcaggcg gcggtctgtg cagctgctgc cctggcgggc tgcggcgagg cctcctcctg  
1860  
cacggcgccc gcagcaagcc ctactcgtgc cccgagtgcg gcaagagctt cggcgtgcgc  
1920  
aagagcctca tcatccacca ccgcagccac accaaggagc ggccctacga gtgcgctgag  
1980  
tgcgagaaga gtttcaactg ccactcgggc ctcatccgcc accagatgac gcaccgggc  
2040  
gagcggccct acaagtgtc ggagtgcgag aagacctaca gccgtaagga gcacctgcag  
2100  
aaccaccagc ggctgcacac gggcgagcgg ctttccaat gtgcactgtg cggcaagagc  
2160  
ttcatccgca agcagaacct gctcaagcac cagcgcatcc acacgggcga gcgcccctac  
2220  
acgtgcggcg agtgcggcaa gagcttccgc tacaaggagt cgctcaagga ccacctgcgc  
2280  
gtgcacagcg gcgggcccg gcccggcgcc ccacggcagc tcccgcgcgc tcctgagcga  
2340  
gactagggct gggctggggg agggcagggc cggacggagt ggatcggggg cggcctgagc  
2400  
accaaccacc ttgccgggtg tcctcagcca ccgtctggaa atcggcaaca ggcattgcac  
2460  
tccggttggg ggtccccag ggtggggcag ggatcccca gatctgtctg gtctgaatgg  
2520  
acgcccagct catctagggt ggaccagct gctggggaag agccaggggg accgcgagga  
2580  
gccgagcgtc ctcgggcacc gccctcacac ctctcagagt gccctgggac cactgggcca  
2640  
cagatggtca tcaggggaag ccaccagga gtcccgaagc cttctgaga tcaggaaatc  
2700  
aggccccag gttaggagac gccctgaaaa aaagcgaagg ccgagggatg tgctaagggt  
2760  
aacaccttca tgatgacaac actgcctcgc gtttcaatag cgctttatac ttttttaagt  
2820  
gttttctatc cgttatccat ttcacccttg gcctatccct ctcatagagg tggggtagga  
2880  
ttttctggt gaccgagtaa agtgagaggc aggtgagacg gttcacccaa tcacacggga  
2940  
aggggcgcgc gctgcccac cgcgctctcc gcctacctcc gctgctcggg aagctgctgg  
3000  
cctggccctc ctggtctctc ttcctttcct ggtctctctt cctttccttg ctctcaccca  
3060  
cgataaaac cagaagcgac aggaggccag ctctgggggt tcctgggagc cgggaacaga  
3120  
ttggctacgg aacgccccag gttgtacatt cagagggctc tttctccatg ggagctcctg  
3180

gtgccgcctc ggccccagcc tgtccccagc ccctcaatct ggtgcagcag catcttgta  
 3240  
 ctgcacaaca gtggcctggt cccccacagg cagttagggc cccaggtcag acctcaccat  
 3300  
 gatgatttgt tccagttctc ccagggcaga ggggcgaggg agaggctttt gctgtgagag  
 3360  
 tagccgtcac gtgtctcttc ccagcagcgc cgggcaagtg ggtgctagag tctgagcctc  
 3420  
 aggtctctct gccctgggccc tcccaattgg tgctatctgt tactgcccggt gctcacggac  
 3480  
 atggatacag accctgctgt gctccacacc ctgcaggcgc ctcggaagc gcccaaagga  
 3540  
 ttcccccttca cgttggtgca cctgctccat agctccgggc gctgctccc gagggggccac  
 3600  
 agtctccatt tcagcgtctt gcattggcctg gcaccgggtg ggggtggtatg cccaggacc  
 3660  
 cttgtttgtg tcaaaaatga ctttccctgc ccttgccgtg ggtccggcgt tctcccagc  
 3720  
 cgggatcaca gtgggcagcc ggcacccggc accactttgg cgagcgtcct gcttcgccc  
 3780  
 tcgcccctcat ctacgtgct cgcctttcct cagaccctt tttgccgtgc aaaggaatt  
 3840  
 cttgacatta aataaaaggt atccagattg cagactgcat gttcacagag ctgggggttc  
 3900  
 tccagcttgc ctacagtaaa gcctcaatga actggaaaaa aaaaaaaaaa aaaaaaaaaa  
 3960  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa  
 3994

&lt;210&gt; 4060

&lt;211&gt; 714

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4060

Arg	Arg	Arg	Gly	Leu	Phe	Ala	Pro	Thr	Gly	Cys	Arg	Trp	Ser	Cys	Pro
1				5					10					15	
Ala	Pro	Glu	Arg	Gly	Lys	Ala	Pro	Gly	Lys	Arg	Ser	Ser	Ser	Pro	Trp
			20					25					30		
Pro	Thr	Arg	Ala	Gly	Asn	Ser	Thr	Pro	Arg	Met	Gln	Phe	Val	Ser	Thr
		35				40					45				
Arg	Pro	Gln	Pro	Gln	Gln	Leu	Gly	Ile	Gln	Gly	Leu	Gly	Leu	Asp	Ser
		50			55					60					
Gly	Ser	Trp	Ser	Trp	Ala	Gln	Ala	Leu	Pro	Pro	Glu	Glu	Val	Cys	His
65					70					75				80	
Gln	Glu	Pro	Ala	Leu	Arg	Gly	Glu	Met	Ala	Glu	Gly	Met	Pro	Pro	Met
				85					90					95	
Gln	Ala	Gln	Glu	Trp	Asp	Met	Asp	Ala	Arg	Arg	Pro	Met	Pro	Phe	Gln
		100						105					110		
Phe	Pro	Pro	Phe	Pro	Asp	Arg	Ala	Pro	Val	Phe	Pro	Asp	Arg	Met	Met
		115					120					125			
Arg	Glu	Pro	Gln	Leu	Pro	Thr	Ala	Glu	Ile	Ser	Leu	Trp	Thr	Val	Val
		130					135					140			
Ala	Ala	Ile	Gln	Ala	Met	Glu	Arg	Lys	Ile	Glu	Ser	Gln	Ala	Ala	His

145 150 155 160  
 Leu Leu Ser Leu Glu Gly Gln Thr Gly Met Ala Glu Lys Lys Leu Ala  
 165 170 175  
 Asp Cys Glu Lys Thr Ala Val Glu Phe Gly Asn Gln Leu Glu Gly Lys  
 180 185 190  
 Trp Ala Val Leu Gly Thr Leu Leu Gln Glu Tyr Gly Leu Leu Gln Arg  
 195 200 205  
 Arg Leu Glu Asn Val Glu Asn Leu Leu Arg Asn Arg Asn Phe Trp Val  
 210 215 220  
 Leu Arg Leu Pro Pro Gly Ser Lys Gly Glu Ala Pro Lys Val Pro Val  
 225 230 235 240  
 Thr Phe Val Asp Ile Ala Val Tyr Phe Ser Glu Asp Glu Trp Lys Asn  
 245 250 255  
 Leu Asp Glu Trp Gln Lys Glu Leu Tyr Asn Asn Leu Val Lys Glu Asn  
 260 265 270  
 Tyr Lys Thr Leu Met Ser Leu Asp Ala Glu Gly Ser Val Pro Lys Pro  
 275 280 285  
 Asp Ala Pro Val Gln Ala Glu Pro Arg Glu Glu Pro Cys Val Trp Glu  
 290 295 300  
 Gln Arg His Pro Glu Glu Arg Glu Ile Pro Met Asp Pro Glu Ala Gly  
 305 310 315 320  
 Ala Glu Pro Leu Val Pro Ala Gln Asp Ala Ser Ser Gln Val Lys Arg  
 325 330 335  
 Glu Asp Thr Leu Cys Val Arg Gly Gln Arg Gly Leu Glu Glu Arg Ala  
 340 345 350  
 Ile Pro Thr Glu Ser Ile Thr Val Asp Ser Pro Ile Ser Ala Gln Asp  
 355 360 365  
 Leu Leu Ser Arg Ile Lys Gln Glu Glu His Gln Cys Val Trp Asp Gln  
 370 375 380  
 Gln Asp Leu Ala Asp Arg Asp Ile Pro Thr Asp Pro Asn Ser Glu Ser  
 385 390 395 400  
 Leu Ile Ser Ala His Asp Ile Leu Ser Trp Ile Lys Gln Glu Glu Gln  
 405 410 415  
 Pro Tyr Pro Trp Gly Pro Arg Asp Ser Met Asp Gly Glu Leu Gly Leu  
 420 425 430  
 Asp Ser Gly Pro Ser Asp Ser Leu Leu Met Val Lys Asn Pro Pro Pro  
 435 440 445  
 Ala Pro Pro Gln Pro Gln Pro Gln Pro Gln Pro Pro Gln Pro Gln Leu  
 450 455 460  
 Gln Ser Gln Pro Gln Pro Gln Ser Leu Pro Pro Ile Ala Val Ala Glu  
 465 470 475 480  
 Asn Pro Gly Gly Pro Pro Ser Arg Gly Leu Leu Asp Asp Gly Phe Gln  
 485 490 495  
 Val Leu Pro Gly Glu Arg Gly Ser Gly Glu Ala Pro Pro Gly Gly Asp  
 500 505 510  
 Arg Ser Thr Gly Gly Gly Gly Gly Asp Gly Gly Gly Gly Gly Gly  
 515 520 525  
 Ala Glu Ala Gly Thr Gly Ala Gly Gly Gly Cys Gly Ser Cys Cys Pro  
 530 535 540  
 Gly Gly Leu Arg Arg Ser Leu Leu Leu His Gly Ala Arg Ser Lys Pro  
 545 550 555 560  
 Tyr Ser Cys Pro Glu Cys Gly Lys Ser Phe Gly Val Arg Lys Ser Leu  
 565 570 575  
 Ile Ile His His Arg Ser His Thr Lys Glu Arg Pro Tyr Glu Cys Ala

580 585 590  
 Glu Cys Glu Lys Ser Phe Asn Cys His Ser Gly Leu Ile Arg His Gln  
 595 600 605  
 Met Thr His Arg Gly Glu Arg Pro Tyr Lys Cys Ser Glu Cys Glu Lys  
 610 615 620  
 Thr Tyr Ser Arg Lys Glu His Leu Gln Asn His Gln Arg Leu His Thr  
 625 630 635 640  
 Gly Glu Arg Pro Phe Gln Cys Ala Leu Cys Gly Lys Ser Phe Ile Arg  
 645 650 655  
 Lys Gln Asn Leu Leu Lys His Gln Arg Ile His Thr Gly Glu Arg Pro  
 660 665 670  
 Tyr Thr Cys Gly Glu Cys Gly Lys Ser Phe Arg Tyr Lys Glu Ser Leu  
 675 680 685  
 Lys Asp His Leu Arg Val His Ser Gly Gly Pro Gly Pro Gly Ala Pro  
 690 695 700  
 Arg Gln Leu Pro Pro Pro Glu Arg Asp  
 705 710

&lt;210&gt; 4061

&lt;211&gt; 519

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4061

ctacaagccg gccaccctgg ccatgaccca tctcaacctg agctacaatc aggacacaca  
 60  
 ccctgccatt aatgatgttt tgtgggcctg tgcgcttagc cactcccttg gtaaaaatga  
 120  
 gcttgagct ataatacctc tgggtgtcaa gagggtcaag tgtgcaacgg tactgtcaga  
 180  
 cattttgcgc agatgcactc tgaccactcc tggcatggtg ggacttcatg ggaggaggaa  
 240  
 ctctggtaag ctcatgtcac tggacaaagc ccccttgagg caactcttgg atgccacgat  
 300  
 cggggcctac atcaacacaa cgcactcagc gctcacacac atcagtcctc ggcactatag  
 360  
 tgagtttata gaggctctca gcaaagcccg agagaccttc ttaatggcgc atgatggaca  
 420  
 cattcagttt acacagttta ttgacaacct gaaacaaatc tacaaaggca aaaagaaact  
 480  
 gatgatgttg gttcggagag aggtttggtt gatagatct  
 519

&lt;210&gt; 4062

&lt;211&gt; 165

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4062

Met Thr His Leu Asn Leu Ser Tyr Asn Gln Asp Thr His Pro Ala Ile  
 1 5 10 15  
 Asn Asp Val Leu Trp Ala Cys Ala Leu Ser His Ser Leu Gly Lys Asn  
 20 25 30  
 Glu Leu Ala Ala Ile Ile Pro Leu Val Val Lys Ser Val Lys Cys Ala



```
<210> 4063
<211> 4137
<212> DNA
<213> Homo sapiens
```

3249

cagcgggaagc gcttgcagac cctcatgtcg gtggacgact ccatggagac gatttacaac  
960  
atgctggttg agacgggcga gctggacaac acgtacatcg tatacaccgc cgaccacggt  
1020  
taccacatcg gccagtttgg cctggtgaaa gggaaatcca tgccatatga gtttgacatc  
1080  
agggtcccgt tctacgtgag gggccccaac gtggaagccg gctgtctgaa tccccacatc  
1140  
gtcctcaaca ttgacctggc cccaccatc ctggacattg caggcctgga catacctgcg  
1200  
gatatggacg ggaaatccat cctcaagctg ctggacacgg agcggccggt gaatcggttt  
1260  
cacttgaaaa agaagatgag ggtctggcgg gactccttct tggaggagag aggcaagctg  
1320  
ctacacaaga gagacaatga caaggtggac gccaggagg agaactttct gcccaagtac  
1380  
cagcgtgtga aggacctgtg tcagcgtgct gaggaccaga cggcgtgtga gcagctggga  
1440  
cagaagtggc agtgtgtgga ggacgccacg gggaagctga agctgcataa gtgcaagggc  
1500  
cccatgcggc tgggcggcag cagagccctc tccaacctcg tgcccaagta ctacgggcag  
1560  
ggcagcgagg cctgcacctg tgacagcggg gactacaagc tcagcctggc cggacgccg  
1620  
aaaaaanctc ttcaagaaga anngtacaag gccagctatg tccgcaatcg ctccatccgc  
1680  
tcagtggcca tcgaggtgga cggcaggggtg taccacgtag gcctgggtga tgccgcccag  
1740  
ccccgaaacc tcaccaagcg gcaactggcca ggggcccctg aggaccaaga tgacaaggat  
1800  
ggtggggacn nttcagtggc actggaggcc tccccgacta ctcagccgcc aaccnccatt  
1860  
aaagtgcac atcggtgcta catcctagag aacgacacag tccagtgtga cctggacctg  
1920  
tacaagtccc tgcaggcctg gaaagaccac aagctgcaca tcgaccacga gattgaaacc  
1980  
ctgcagaaca aaattaagaa cctgagggaa gtccgaggtc acctgaagaa aaagcggcca  
2040  
gaagaatgtg actgtcacia aatcagctac cacaccacgc acaaaggccg cctcaagcac  
2100  
agaggctcca gtctgcatcc tttcaggaag ggctgcaag agaaggacaa ggtgtggctg  
2160  
ttgcgggagc agaagcgcaa gaagaaactc cgcaagctgc tcaagcgct gcagaacaac  
2220  
gacacgtgca gcatgccagg cctcacgtgc ttcaccacg acaaccagca ctggcagacg  
2280  
gcgcctttct ggacactggg gcctttctgt gcctgcacca gcgccaacaa taacacgtac  
2340  
tgggtgcatga ggaccatcaa tgagactcac aatttctct tctgtgaatt tgcaactggc  
2400  
ttcctagagt actttgatct caacacagac ccctaccagc tgatgaatgc agtgaacaca  
2460  
ctggacaggg atgtcctcaa ccagctacac gtgcagctca tggagctgag gagctgcaag  
2520

ggttacaagc agtgtaaccc ccggactcga aacatggacc tgggacttaa agatggagga  
2580  
agctatgagc aatacaggca gtttcagcgt cgaaagtggc cagaaatgaa gagaccttct  
2640  
tccaaatcac tgggacaact gtgggaaggc tgggaagggt aagaaacaac agaggtggac  
2700  
ctccaaaaac atagaggcat cacctgactg cacaggcaat gaaaaacat gtgggtgatt  
2760  
tccagcagac ctgtgctatt ggccaggagg cctgagaaag caagcacgca ctctcagtca  
2820  
acatgacaga ttctggagga taaccagcag gagcagagat aacttcagga agtccatttt  
2880  
tgcccctgct tttgctttgg attatacctc accagctgca caaatgcat ttttctgtat  
2940  
caaaaagtca ccactaaccc tccccagaa gctcacaag gaaaacggag agagcgagcg  
3000  
agagagattt ccttggaat ttctcccaag ggcgaaagtc attggaattt ttaaatcata  
3060  
ggggaaaagc agtcctgttc taaatcctct tattcttttg gttgtcaca aagaaggaac  
3120  
taagaagcag gacagaggca acgtggagag gctgaaaaca gtgcagagac gtttgacaat  
3180  
gagtcagtag cacaaaagag atgacattta cctagcacta taaacctgg ttgcctctga  
3240  
agaaactgcc ttcattgtat atatgtgact atttacatgt aatcaacatg ggaactttta  
3300  
ggggaacctataaagaaatc ccaattttca ggagtgggtg tgtcaataaa cgctctgtgg  
3360  
ccagtgtaaa agaaaatccc tcgcagttgt ggacatttct gttcctgtcc agataccatt  
3420  
tctcctagta tttctttgtt atgtcccaga actgatgttt tttttttaag gtactgaaaa  
3480  
gaaatgaagt tgatgtatgt cccaagtttt gatgaaactg tatttgtaaa aaaaattttg  
3540  
tagtttaagt attgtcatac agtgttcaaa accccagcca atgaccagca gttggtatga  
3600  
agaacctttg acattttgta aaaggccatt tctttcttgg gagttttttg gtgtgtctgt  
3660  
ttttttaag tattcaagat actaccagtc aacatctttt tggaagaaaa tgccttgggt  
3720  
ttagaagatt ttcttaaaag gggagtagat gggtgtagat tgactaaaaa gtctaccata  
3780  
cttcaaggga ctacaggtaa gtctcatagt ataccagctt tggacttca ttttttaaaa  
3840  
aagtattaat caattgcaaa gaaattcgcc ttggccaacc cttctttgtg tatcaggtag  
3900  
tctaacctga tacaagtagt tgacagattt caactatcaa tcaccagtcc aacctttc  
3960  
tcatttaaca gatgacggag ataatcccta aaagcaccca catttgtttc aatgccccaa  
4020  
acaggccaag gctccctagc aactccctag tggcgttttt taacttctca gaaactgtta  
4080  
ccattatttg aaataggctt ccttaacctc ctttacctt aaccaacag ggattta  
4137

&lt;210&gt; 4064

&lt;211&gt; 818

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4064

```

Asp Val Glu Leu Gly Ser Met Gln Val Met Asn Lys Thr Arg Arg Ile
 1              5              10              15
Met Glu Gln Gly Gly Thr His Phe Ile Asn Ala Phe Val Thr Thr Pro
      20              25              30
Met Cys Cys Pro Ser Arg Ser Ser Ile Leu Thr Gly Lys Tyr Val His
      35              40              45
Asn His Asn Thr Tyr Thr Asn Asn Glu Asn Cys Ser Ser Pro Ser Trp
      50              55              60
Gln Ala Gln His Glu Ser Arg Thr Phe Ala Val Tyr Leu Asn Ser Thr
 65              70              75              80
Gly Tyr Arg Thr Ala Phe Phe Gly Lys Tyr Leu Asn Glu Tyr Asn Gly
      85              90              95
Ser Tyr Val Pro Pro Gly Trp Lys Glu Trp Val Gly Leu Leu Lys Asn
      100             105             110
Ser Arg Phe Tyr Asn Tyr Thr Leu Cys Arg Asn Gly Val Lys Glu Lys
      115             120             125
His Gly Ser Asp Tyr Ser Lys Asp Tyr Leu Thr Asp Leu Ile Thr Asn
     130             135             140
Asp Ser Val Ser Phe Phe Arg Thr Ser Lys Lys Met Tyr Pro His Arg
    145             150             155             160
Pro Val Leu Met Val Ile Ser His Ala Ala Pro His Gly Pro Glu Asp
      165             170             175
Ser Ala Pro Gln Tyr Ser Arg Leu Phe Pro Asn Ala Ser Gln His Ile
      180             185             190
Thr Pro Ser Tyr Asn Tyr Ala Pro Asp Pro Asp Lys His Trp Ile Met
      195             200             205
Arg Tyr Thr Gly Pro Met Lys Pro Ile His Met Glu Phe Thr Asn Met
     210             215             220
Leu Gln Arg Lys Arg Leu Gln Thr Leu Met Ser Val Asp Asp Ser Met
    225             230             235             240
Glu Thr Ile Tyr Asn Met Leu Val Glu Thr Gly Glu Leu Asp Asn Thr
      245             250             255
Tyr Ile Val Tyr Thr Ala Asp His Gly Tyr His Ile Gly Gln Phe Gly
      260             265             270
Leu Val Lys Gly Lys Ser Met Pro Tyr Glu Phe Asp Ile Arg Val Pro
     275             280             285
Phe Tyr Val Arg Gly Pro Asn Val Glu Ala Gly Cys Leu Asn Pro His
     290             295             300
Ile Val Leu Asn Ile Asp Leu Ala Pro Thr Ile Leu Asp Ile Ala Gly
    305             310             315             320
Leu Asp Ile Pro Ala Asp Met Asp Gly Lys Ser Ile Leu Lys Leu Leu
      325             330             335
Asp Thr Glu Arg Pro Val Asn Arg Phe His Leu Lys Lys Lys Met Arg
      340             345             350
Val Trp Arg Asp Ser Phe Leu Val Glu Arg Gly Lys Leu Leu His Lys
      355             360             365
Arg Asp Asn Asp Lys Val Asp Ala Gln Glu Glu Asn Phe Leu Pro Lys

```

370	375	380
Tyr Gln Arg Val Lys Asp Leu Cys Gln Arg Ala Glu Tyr Gln Thr Ala		
385	390	395
Cys Glu Gln Leu Gly Gln Lys Trp Gln Cys Val Glu Asp Ala Thr Gly		400
	405	410
Lys Leu Lys Leu His Lys Cys Lys Gly Pro Met Arg Leu Gly Gly Ser		415
	420	425
Arg Ala Leu Ser Asn Leu Val Pro Lys Tyr Tyr Gly Gln Gly Ser Glu		430
	435	440
Ala Cys Thr Cys Asp Ser Gly Asp Tyr Lys Leu Ser Leu Ala Gly Arg		445
	450	455
Arg Lys Lys Xaa Leu Gln Glu Glu Xaa Tyr Lys Ala Ser Tyr Val Arg		460
465	470	475
Asn Arg Ser Ile Arg Ser Val Ala Ile Glu Val Asp Gly Arg Val Tyr		480
	485	490
His Val Gly Leu Gly Asp Ala Ala Gln Pro Arg Asn Leu Thr Lys Arg		495
	500	505
His Trp Pro Gly Ala Pro Glu Asp Gln Asp Asp Lys Asp Gly Gly Asp		510
	515	520
Xaa Ser Val Ala Leu Glu Ala Phe Pro Thr Thr Gln Pro Pro Thr Xaa		525
	530	535
Ile Lys Val Thr His Arg Cys Tyr Ile Leu Glu Asn Asp Thr Val Gln		540
545	550	555
Cys Asp Leu Asp Leu Tyr Lys Ser Leu Gln Ala Trp Lys Asp His Lys		560
	565	570
Leu His Ile Asp His Glu Ile Glu Thr Leu Gln Asn Lys Ile Lys Asn		575
	580	585
Leu Arg Glu Val Arg Gly His Leu Lys Lys Lys Arg Pro Glu Glu Cys		590
	595	600
Asp Cys His Lys Ile Ser Tyr His Thr Gln His Lys Gly Arg Leu Lys		605
	610	615
His Arg Gly Ser Ser Leu His Pro Phe Arg Lys Gly Leu Gln Glu Lys		620
625	630	635
Asp Lys Val Trp Leu Leu Arg Glu Gln Lys Arg Lys Lys Lys Leu Arg		640
	645	650
Lys Leu Leu Lys Arg Leu Gln Asn Asn Asp Thr Cys Ser Met Pro Gly		655
	660	665
Leu Thr Cys Phe Thr His Asp Asn Gln His Trp Gln Thr Ala Pro Phe		670
	675	680
Trp Thr Leu Gly Pro Phe Cys Ala Cys Thr Ser Ala Asn Asn Asn Thr		685
	690	695
Tyr Trp Cys Met Arg Thr Ile Asn Glu Thr His Asn Phe Leu Phe Cys		700
705	710	715
Glu Phe Ala Thr Gly Phe Leu Glu Tyr Phe Asp Leu Asn Thr Asp Pro		720
	725	730
Tyr Gln Leu Met Asn Ala Val Asn Thr Leu Asp Arg Asp Val Leu Asn		735
	740	745
Gln Leu His Val Gln Leu Met Glu Leu Arg Ser Cys Lys Gly Tyr Lys		750
	755	760
Gln Cys Asn Pro Arg Thr Arg Asn Met Asp Leu Gly Leu Lys Asp Gly		765
	770	775
Gly Ser Tyr Glu Gln Tyr Arg Gln Phe Gln Arg Arg Lys Trp Pro Glu		780
785	790	795
Met Lys Arg Pro Ser Ser Lys Ser Leu Gly Gln Leu Trp Glu Gly Trp		800

805                      810                      815

Glu Gly

<210> 4065  
 <211> 696  
 <212> DNA  
 <213> Homo sapiens

<400> 4065  
 ngcgcgccccg ctgctcgggtg gcaggagggc cggcggagcg ccatggcctg catcctgaag  
 60  
 agaaagtctg tgattgctgt gagcttcata gcagcgttcc ttttcctgct ggttggtcgt  
 120  
 cttgtaaatg aagtgaattht cccattgcta ctaaactgct ttggacaacc tggtaaaaag  
 180  
 tggataccat tctcctacac atacaggcgg ccccttcgaa ctactatgg atacataaat  
 240  
 gtgaagacac aagagccttt gcaactggac tgtgaccttt gtgcatagt gtcaaactca  
 300  
 ggtcagatgg ttggccagaa ggtgggaaat gagatagatc gatcctcctg catttgagga  
 360  
 atgaacaatg cccccaccaa aggttatgaa gaagatgtcg gccgcatgac catgattcga  
 420  
 gttgtgtccc ataccagcgt tctctctttg ctaaaaaacc ctgattattht tttcaaggaa  
 480  
 gcgaatacta ctatthtatgt tatttgggga cctttccgca atatgaggaa agatggcaat  
 540  
 ggcacgtnt acaacatgtht gaaaaagaca gttggtatct atccgaatgc ccaaataac  
 600  
 gtgaccacag agaagcgcac gagttactgt gatggagtht taagaaggaa anctgggaa  
 660  
 gacagtacag agtgaccatg cagtgttgat tgatca  
 696

<210> 4066  
 <211> 210  
 <212> PRT  
 <213> Homo sapiens

<400> 4066  
 Met Ala Cys Ile Leu Lys Arg Lys Ser Val Ile Ala Val Ser Phe Ile  
 1                      5                      10                      15  
 Ala Ala Phe Leu Phe Leu Leu Val Val Arg Leu Val Asn Glu Val Asn  
 20                      25                      30  
 Phe Pro Leu Leu Leu Asn Cys Phe Gly Gln Pro Gly Thr Lys Trp Ile  
 35                      40                      45  
 Pro Phe Ser Tyr Thr Tyr Arg Arg Pro Leu Arg Thr His Tyr Gly Tyr  
 50                      55                      60  
 Ile Asn Val Lys Thr Gln Glu Pro Leu Gln Leu Asp Cys Asp Leu Cys  
 65                      70                      75                      80  
 Ala Ile Val Ser Asn Ser Gly Gln Met Val Gly Gln Lys Val Gly Asn  
 85                      90                      95  
 Glu Ile Asp Arg Ser Ser Cys Ile Trp Arg Met Asn Asn Ala Pro Thr

	100		105		110										
Lys	Gly	Tyr	Glu	Glu	Asp	Val	Gly	Arg	Met	Thr	Met	Ile	Arg	Val	Val
	115		120		125										
Ser	His	Thr	Ser	Val	Pro	Leu	Leu	Leu	Lys	Asn	Pro	Asp	Tyr	Phe	Phe
	130		135		140										
Lys	Glu	Ala	Asn	Thr	Thr	Ile	Tyr	Val	Ile	Trp	Gly	Pro	Phe	Arg	Asn
145			150		155				160						
Met	Arg	Lys	Asp	Gly	Asn	Gly	Ile	Val	Tyr	Asn	Met	Leu	Lys	Lys	Thr
	165		170		175										
Val	Gly	Ile	Tyr	Pro	Asn	Ala	Gln	Ile	Tyr	Val	Thr	Thr	Glu	Lys	Arg
	180		185		190										
Met	Ser	Tyr	Cys	Asp	Gly	Val	Leu	Arg	Arg	Lys	Xaa	Gly	Lys	Asp	Ser
	195		200		205										
Thr	Glu														
	210														

&lt;210&gt; 4067

&lt;211&gt; 1800

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4067

```

nnaatctgatg agcttcttttc ttctggcatc attaacggac cttttaccat gaatagttct
60
actccttcta cagctaattgg gaatgacagc aagaaattta aacgagatag acctccctgt
120
tcgccttccc gtgttctcca tcttcgaaaa attccatgtg atgtcaccga agcagagatc
180
atatcattag gtctaccatt tggcaaagta actaatcttt tgatgttgaa aggaaaaagc
240
caggctttct tagaaatggc ttctgaggaa gctgccgtta ctatggtgaa ttattacact
300
cctattactc ctacaccttcg aagccagcct gtttatattc agtattccaa tcacagagaa
360
cttaagactg acaatctacc taatcaagct cgagcccaag ctgcactgca ggctgtcagt
420
gccgtccaat caggaagcct ggccctttct ggaggtcctt ccaatgaagg cacagtctta
480
cctgggcaga gccctgtgct tcgaataatt attgaaaacc tcttttacct tgttaccctg
540
gaagttcttc atcagatatt ttctaaattt ggcacagtct tgaagattat cacctttaca
600
aagaataatc agtttcaagc cttgcttcag tatgctgacc cagtaaagc acattatgcc
660
aaaatggctc tggatggcca gaatatctat aatgcatgct gcactctgcg cattgacttc
720
tccaagctca ccagccttaa tgtgaaatat aataatgaca aaagcagaga cttcactcgc
780
ttagaccttc ctactggtga tggccagcca tcccttgaa cccctatggc tgetgctttt
840
ggtgcaccgg gtataatttc ttcacatat gcaggggctg ctggatttgc cccagccatt
900
ggatttcttc aagctacagg tctatcagtt ccagctgttc ctggagctct tggctctctc
960

```

acaatcacct cttctgctgt cactggaagg atggccattc ctggggctag tggatatacca  
 1020  
 ggaaattctg ttctactcgt cacaaatctc aatcctgata ttatcacacc acatgggctt  
 1080  
 tttatcctat ttggagtcta tggatgatga catcgagtga agattatgtt taataagaaa  
 1140  
 gaaaatgcct tgggttcagat ggcggatgca aatcaagctc agctagcaat gaaccatcta  
 1200  
 agtggtcaga gactttatgg gaaagtgcct cgtgctacac tgtccaaaca tcaagcagta  
 1260  
 cagcttctc gagagggaca agaagaccaa ggtctgacta aggatttcag caatagtcct  
 1320  
 ttgcatcgt ttaaaaagcc gggctctaaa aacttcaga atatctttcc accatcagcc  
 1380  
 actctgcata tttccaacat tcccccttct gttacagtgg atgatctgaa gaaccttttc  
 1440  
 atagaagctg gatgttcagt gaaggctttt aaattctttc agaaagatcg caaatggcg  
 1500  
 ctcatcatt tgggatctgt ggaagaagca attcaggccc tcattgagct tcataaccat  
 1560  
 gacctggag aaaatcacca cctcagagtt tccttctcaa aatctacaat ctgacttttc  
 1620  
 tgtgaatttt tctcctaaaa ctggaccata atttcagtaa aaccttcaga catagactga  
 1680  
 agcagctcaa gaccaatttt gcctctttca caaaaataac tctttctgag tttgatattc  
 1740  
 aagtatattt taaaaatcaa gggatttttt ttttttgtat tccccctgca aaaaaaaaaa  
 1800

&lt;210&gt; 4068

&lt;211&gt; 521

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4068

Met	Asn	Ser	Ser	Thr	Pro	Ser	Thr	Ala	Asn	Gly	Asn	Asp	Ser	Lys	Lys
1				5					10					15	
Phe	Lys	Arg	Asp	Arg	Pro	Pro	Cys	Ser	Pro	Ser	Arg	Val	Leu	His	Leu
			20					25					30		
Arg	Lys	Ile	Pro	Cys	Asp	Val	Thr	Glu	Ala	Glu	Ile	Ile	Ser	Leu	Gly
		35					40					45			
Leu	Pro	Phe	Gly	Lys	Val	Thr	Asn	Leu	Leu	Met	Leu	Lys	Gly	Lys	Ser
		50				55					60				
Gln	Ala	Phe	Leu	Glu	Met	Ala	Ser	Glu	Glu	Ala	Ala	Val	Thr	Met	Val
65					70					75				80	
Asn	Tyr	Tyr	Thr	Pro	Ile	Thr	Pro	His	Leu	Arg	Ser	Gln	Pro	Val	Tyr
			85					90					95		
Ile	Gln	Tyr	Ser	Asn	His	Arg	Glu	Leu	Lys	Thr	Asp	Asn	Leu	Pro	Asn
			100					105					110		
Gln	Ala	Arg	Ala	Gln	Ala	Ala	Leu	Gln	Ala	Val	Ser	Ala	Val	Gln	Ser
		115					120					125			
Gly	Ser	Leu	Ala	Leu	Ser	Gly	Gly	Pro	Ser	Asn	Glu	Gly	Thr	Val	Leu
		130				135					140				
Pro	Gly	Gln	Ser	Pro	Val	Leu	Arg	Ile	Ile	Ile	Glu	Asn	Leu	Phe	Tyr



```

145          150          155          160
Pro Val Thr Leu Glu Val Leu His Gln Ile Phe Ser Lys Phe Gly Thr
          165          170          175
Val Leu Lys Ile Ile Thr Phe Thr Lys Asn Asn Gln Phe Gln Ala Leu
          180          185          190
Leu Gln Tyr Ala Asp Pro Val Asn Ala His Tyr Ala Lys Met Ala Leu
          195          200          205
Asp Gly Gln Asn Ile Tyr Asn Ala Cys Cys Thr Leu Arg Ile Asp Phe
          210          215          220
Ser Lys Leu Thr Ser Leu Asn Val Lys Tyr Asn Asn Asp Lys Ser Arg
225          230          235          240
Asp Phe Thr Arg Leu Asp Leu Pro Thr Gly Asp Gly Gln Pro Ser Leu
          245          250          255
Glu Pro Pro Met Ala Ala Ala Phe Gly Ala Pro Gly Ile Ile Ser Ser
          260          265          270
Pro Tyr Ala Gly Ala Ala Gly Phe Ala Pro Ala Ile Gly Phe Pro Gln
          275          280          285
Ala Thr Gly Leu Ser Val Pro Ala Val Pro Gly Ala Leu Gly Pro Leu
          290          295          300
Thr Ile Thr Ser Ser Ala Val Thr Gly Arg Met Ala Ile Pro Gly Ala
305          310          315          320
Ser Gly Ile Pro Gly Asn Ser Val Leu Leu Val Thr Asn Leu Asn Pro
          325          330          335
Asp Leu Ile Thr Pro His Gly Leu Phe Ile Leu Phe Gly Val Tyr Gly
          340          345          350
Asp Val His Arg Val Lys Ile Met Phe Asn Lys Lys Glu Asn Ala Leu
          355          360          365
Val Gln Met Ala Asp Ala Asn Gln Ala Gln Leu Ala Met Asn His Leu
          370          375          380
Ser Gly Gln Arg Leu Tyr Gly Lys Val Leu Arg Ala Thr Leu Ser Lys
385          390          395          400
His Gln Ala Val Gln Leu Pro Arg Glu Gly Gln Glu Asp Gln Gly Leu
          405          410          415
Thr Lys Asp Phe Ser Asn Ser Pro Leu His Arg Phe Lys Lys Pro Gly
          420          425          430
Ser Lys Asn Phe Gln Asn Ile Phe Pro Pro Ser Ala Thr Leu His Leu
          435          440          445
Ser Asn Ile Pro Pro Ser Val Thr Val Asp Asp Leu Lys Asn Leu Phe
          450          455          460
Ile Glu Ala Gly Cys Ser Val Lys Ala Phe Lys Phe Phe Gln Lys Asp
465          470          475          480
Arg Lys Met Ala Leu Ile Gln Leu Gly Ser Val Glu Glu Ala Ile Gln
          485          490          495
Ala Leu Ile Glu Leu His Asn His Asp Leu Gly Glu Asn His His Leu
          500          505          510
Arg Val Ser Phe Ser Lys Ser Thr Ile
          515          520

```

&lt;210&gt; 4069

&lt;211&gt; 714

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4069

agtaccatta taacgaattt tgagagggtg gtaaaaggag attggaaacc agaaggtgat  
 60  
 gaatggctga agatgtcata ccctgccaaag gtaaccctgc tggggtcagt tatcttcaca  
 120  
 ttccagcaca ccagcatct ggcaatatca aagcataatc ttatgttcct ttataccatc  
 180  
 tttattgtgg ccacaaagat aaccatgatg actacacaga cttctactat gacatttgct  
 240  
 ccttttgagg atacattgag ttggatgcta tttggctggc agcagccgtt ttcacatgt  
 300  
 gagaagaaaa gtgaagcaaa gtcaccttcc aatggcggtg ggtcattggc ctcaaagccg  
 360  
 gtagatgttg cctcagataa tgttaaaaag aacataacta agaagaatga ataaatttac  
 420  
 gtgatgagct ctacaaggcc aaaaattttt tttcttatct acctgttata ttgtgcta  
 480  
 ttttctatgt atgtgatgtg aaatgaagac tatatatatg gaatggaggt gacagaaaga  
 540  
 aagaaattct ttgtttgagg gagacttccc ctttctggat tgtatttgta gagtgttacg  
 600  
 agtgtatcat gtgattatgc tttaccggta taagagattc tgttgtgatt atttgaatag  
 660  
 ttttatatta ataaaagaag acaaaatttt ttaaattgta aaaaaagcag atct  
 714

&lt;210&gt; 4070

&lt;211&gt; 113

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4070

Met	Ser	Tyr	Pro	Ala	Lys	Val	Thr	Leu	Leu	Gly	Ser	Val	Ile	Phe	Thr
1				5					10					15	
Phe	Gln	His	Thr	Gln	His	Leu	Ala	Ile	Ser	Lys	His	Asn	Leu	Met	Phe
			20					25					30		
Leu	Tyr	Thr	Ile	Phe	Ile	Val	Ala	Thr	Lys	Ile	Thr	Met	Met	Thr	Thr
		35				40					45				
Gln	Thr	Ser	Thr	Met	Thr	Phe	Ala	Pro	Phe	Glu	Asp	Thr	Leu	Ser	Trp
	50				55					60					
Met	Leu	Phe	Gly	Trp	Gln	Gln	Pro	Phe	Ser	Ser	Cys	Glu	Lys	Lys	Ser
65					70				75					80	
Glu	Ala	Lys	Ser	Pro	Ser	Asn	Gly	Val	Gly	Ser	Leu	Ala	Ser	Lys	Pro
			85				90						95		
Val	Asp	Val	Ala	Ser	Asp	Asn	Val	Lys	Lys	Lys	His	Thr	Lys	Lys	Asn
			100				105						110		

Glu

&lt;210&gt; 4071

&lt;211&gt; 601

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4071

ggtcctggag gaggaaggcc tctggtgctc acttcaaagg catcgagaag aacttgttcc  
 60  
 cagacttgca gcggacttgc tcagtgtgca cgcgcagcag cacctcagca tcttcaaacc  
 120  
 catccacgat tgctgtagt tctgcaggc actgcccctc cagctggaga cgtgcatcac  
 180  
 ccacacacca ggccaggctg aggtggaaag aaggatcctg gtagaaagtg gtgaggttga  
 240  
 attcctccat gactctgtcc acctctgaaa ccagggtccag gaactgggca tgcctgaag  
 300  
 tgacctcaag cccaataaag gtcttggttt tctcttgatt ggtgtaaatac tttacctggt  
 360  
 tggcagtaaa gaagaatctg tggaaggagg tcatacgggc tttcagagcc tgcacgaagg  
 420  
 ggaggatcca gtggtggcgc agaaccacac tctgggacag gctgaggtgg aacaccttca  
 480  
 tccttaccag ccgggggacg agtgcgacc ttccccacg agcgaggcaa ctgggccacc  
 540  
 cacgtctatg taccatatga agccaaggag gagttcctgg atctgcttga tgtgttgctg  
 600  
 c  
 601

&lt;210&gt; 4072

&lt;211&gt; 175

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4072

Met	Val	His	Arg	Arg	Gly	Trp	Pro	Ser	Cys	Leu	Ala	Arg	Gly	Gly	Arg	1	5	10	15
Cys	Ala	Leu	Val	Pro	Arg	Leu	Val	Arg	Met	Lys	Val	Phe	His	Leu	Ser	20	25	30	
Leu	Ser	Gln	Ser	Val	Val	Leu	Arg	His	His	Trp	Ile	Leu	Pro	Phe	Val	35	40	45	
Gln	Ala	Leu	Lys	Ala	Arg	Met	Thr	Ser	Phe	His	Arg	Phe	Phe	Phe	Thr	50	55	60	
Ala	Asn	Gln	Val	Lys	Ile	Tyr	Thr	Asn	Gln	Glu	Lys	Thr	Arg	Thr	Phe	65	70	75	80
Ile	Gly	Leu	Glu	Val	Thr	Ser	Gly	His	Ala	Gln	Phe	Leu	Asp	Leu	Val	85	90	95	
Ser	Glu	Val	Asp	Arg	Val	Met	Glu	Glu	Phe	Asn	Leu	Thr	Thr	Phe	Tyr	100	105	110	
Gln	Asp	Pro	Ser	Phe	His	Leu	Ser	Leu	Ala	Trp	Cys	Val	Gly	Asp	Ala	115	120	125	
Arg	Leu	Gln	Leu	Glu	Gly	Gln	Cys	Leu	Gln	Glu	Leu	Gln	Ala	Ile	Val	130	135	140	
Asp	Gly	Phe	Glu	Asp	Ala	Glu	Val	Leu	Leu	Arg	Val	His	Thr	Glu	Gln	145	150	155	160
Val	Arg	Cys	Lys	Ser	Gly	Asn	Lys	Phe	Phe	Ser	Met	Pro	Leu	Lys		165	170	175	

&lt;210&gt; 4073

&lt;211&gt; 1864

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4073

nnacgcgtga agggggtgaa gggggtgtcc cgggggacgg gctgaacctc agtcaggacc  
60  
gcctgcaccg cagtccgggg atcgggtcga ggggagaaga aaaaggggtg ctccgggagca  
120  
gcccccggt acctccccctg gaggcacaga gggcgggggc cttggcgaat ggctttcttg  
180  
ctggccactt gcggagttag tagaccccgga ggggtctggga gaggggcccg cccctacccc  
240  
tgagtccccg ggggtccggc cgccaggccg gagcggaat gtcgtgctca ccctgcctcc  
300  
ttcccgccgc cccctggggg tttggattca ggatttgttc ctagtgtcca agattttgat  
360  
aagaaactta cagaagctga tgcttaccta caaatcttga ttgaacaatt aaagcttttt  
420  
gatgacaagc ttcaaaactg caaagaagat gaacagagaa agaaaattga aactctcaaa  
480  
gagacaacaa atagcatggt agaataatt aaacactgca ttgtgttgct gcagattgcc  
540  
aaagaccaga gtaatgcgga gaagcacgca gatggaatga taagtactat taatcccgta  
600  
gatgcaatat atcaacctag tcctttggaa cctgtgatca gcacaatgcc ttccagact  
660  
gtgttacctc cagaacctgt tcagttgtgt aagtcagagc agcgtccatc ttccctacca  
720  
gttggacctg tgttggttac cttgggacat catcagactc ctacaccaa tagtacaggc  
780  
agtggccatt caccaccgag tagcagctc acttctccaa gccacgtgaa cttgtctcca  
840  
aatacagtc cagagttctc ttactccagc agtgaagatg aattttatga tgctgatgaa  
900  
ttccatcaaa gtggctcatc cccaaagcgc ttaatatgatt cttctggatc tgcctcagtc  
960  
ctgacacaca gcagctcggg aaatagtcta aaacgcccag ataccacaga atcacttaat  
1020  
tcttcttgt ccaatggaac aagtgtgct gacctgtttg attcacatga tgacagagat  
1080  
gatgatgcgg aggcagggtc tgtggaggag cacaagagcg ttatcatgca tctctgtcg  
1140  
caggtagac ttggaatgga tcttactaag gtagttcttc caacgtttat tcttgaaaga  
1200  
agatctcttt tagaaatgta tgcagacttt tttgcacatc cggacctgtt tgtgagcatt  
1260  
agtgaccaga aggatcccaa ggatcgaatg gttcagggtg tgaaatggta cctctcagcc  
1320  
tttcatgcgg gaaggaaagg atcagttgcc aaaaagccat acaatcccat tttggcgag  
1380  
atttttcagt gtcattggac attaccaa atgatactga agaacacaga actagtttca  
1440  
gaaggaccag ttccctgggt ttccaaaaac agtgtaacat ttgtggctga gcaggtttcc  
1500

catcatccac ccatttcagc cttttatgct gagtggttta acaagaagat acaattcaat  
 1560  
 gctcatatct ggaccaaatac aaaattcctt gggatgtcaa ttgggggtgca caacataggg  
 1620  
 cagggtgtg tctcatgtct agactatgat gaacattaca ttctcacatt cccaatggg  
 1680  
 tatggaaggt ctatcctcac agtgccttg gtggaattag gaggagaatg caatattaat  
 1740  
 tgttccaaaa caggctatag tgcaaatatc atcttcacaca ctaaaccctt ctatgggggc  
 1800  
 aagaagcaca gaattactgc cgagattttt tctccaaatg acaagaagtc ttttgctca  
 1860  
 attg  
 1864

<210> 4074

<211> 456

<212> PRT

<213> Homo sapiens

<400> 4074

Met	Val	Glu	Ser	Ile	Lys	His	Cys	Ile	Val	Leu	Leu	Gln	Ile	Ala	Lys
1				5					10					15	
Asp	Gln	Ser	Asn	Ala	Glu	Lys	His	Ala	Asp	Gly	Met	Ile	Ser	Thr	Ile
			20					25					30		
Asn	Pro	Val	Asp	Ala	Ile	Tyr	Gln	Pro	Ser	Pro	Leu	Glu	Pro	Val	Ile
		35					40					45			
Ser	Thr	Met	Pro	Ser	Gln	Thr	Val	Leu	Pro	Pro	Glu	Pro	Val	Gln	Leu
	50					55					60				
Cys	Lys	Ser	Glu	Gln	Arg	Pro	Ser	Ser	Leu	Pro	Val	Gly	Pro	Val	Leu
65					70					75					80
Ala	Thr	Leu	Gly	His	His	Gln	Thr	Pro	Thr	Pro	Asn	Ser	Thr	Gly	Ser
				85					90					95	
Gly	His	Ser	Pro	Pro	Ser	Ser	Ser	Leu	Thr	Ser	Pro	Ser	His	Val	Asn
			100					105					110		
Leu	Ser	Pro	Asn	Thr	Val	Pro	Glu	Phe	Ser	Tyr	Ser	Ser	Ser	Glu	Asp
		115					120					125			
Glu	Phe	Tyr	Asp	Ala	Asp	Glu	Phe	His	Gln	Ser	Gly	Ser	Ser	Pro	Lys
	130					135					140				
Arg	Leu	Ile	Asp	Ser	Ser	Gly	Ser	Ala	Ser	Val	Leu	Thr	His	Ser	Ser
145					150					155					160
Ser	Gly	Asn	Ser	Leu	Lys	Arg	Pro	Asp	Thr	Thr	Glu	Ser	Leu	Asn	Ser
			165						170					175	
Ser	Leu	Ser	Asn	Gly	Thr	Ser	Asp	Ala	Asp	Leu	Phe	Asp	Ser	His	Asp
		180						185					190		
Asp	Arg	Asp	Asp	Asp	Ala	Glu	Ala	Gly	Ser	Val	Glu	Glu	His	Lys	Ser
		195					200					205			
Val	Ile	Met	His	Leu	Leu	Ser	Gln	Val	Arg	Leu	Gly	Met	Asp	Leu	Thr
	210					215					220				
Lys	Val	Val	Leu	Pro	Thr	Phe	Ile	Leu	Glu	Arg	Arg	Ser	Leu	Leu	Glu
225					230					235					240
Met	Tyr	Ala	Asp	Phe	Phe	Ala	His	Pro	Asp	Leu	Phe	Val	Ser	Ile	Ser
			245						250					255	
Asp	Gln	Lys	Asp	Pro	Lys	Asp	Arg	Met	Val	Gln	Val	Val	Lys	Trp	Tyr

```

                260                265                270
Leu Ser Ala Phe His Ala Gly Arg Lys Gly Ser Val Ala Lys Lys Pro
                275                280                285
Tyr Asn Pro Ile Leu Gly Glu Ile Phe Gln Cys His Trp Thr Leu Pro
                290                295                300
Asn Asp Thr Glu Glu Asn Thr Glu Leu Val Ser Glu Gly Pro Val Pro
                305                310                315                320
Trp Val Ser Lys Asn Ser Val Thr Phe Val Ala Glu Gln Val Ser His
                325                330                335
His Pro Pro Ile Ser Ala Phe Tyr Ala Glu Cys Phe Asn Lys Lys Ile
                340                345                350
Gln Phe Asn Ala His Ile Trp Thr Lys Ser Lys Phe Leu Gly Met Ser
                355                360                365
Ile Gly Val His Asn Ile Gly Gln Gly Cys Val Ser Cys Leu Asp Tyr
                370                375                380
Asp Glu His Tyr Ile Leu Thr Phe Pro Asn Gly Tyr Gly Arg Ser Ile
                385                390                395                400
Leu Thr Val Pro Trp Val Glu Leu Gly Gly Glu Cys Asn Ile Asn Cys
                405                410                415
Ser Lys Thr Gly Tyr Ser Ala Asn Ile Ile Phe His Thr Lys Pro Phe
                420                425                430
Tyr Gly Gly Lys Lys His Arg Ile Thr Ala Glu Ile Phe Ser Pro Asn
                435                440                445
Asp Lys Lys Ser Phe Cys Ser Ile
                450                455

```

&lt;210&gt; 4075

&lt;211&gt; 2492

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4075

```

ntgctggagg aggataacaa gttttgtgca gattgccagt cttaaagggcc gcgatgggcc
60
tcttgaaca ttggtgtgtt catctgcatt cgatgtgctg gaatccacag gaatctgggg
120
gtgcacatat ccagggtaaa gtcagttaac ctcgaccagt ggactcaaga acagattcag
180
tgcattgcaag agatgggaaa tggaaaggca aaccgacttt atgaagccta tcttcctgag
240
acctttcggc gacctcagat agaccagct gttgaaggat ttattcgaga caaatatgag
300
aagaagaaat acatggaccg aagtctggac atcaatgcct ttaggaaaga aaaagatgac
360
aagtggaaaa gagggagcga accagttcca gaaaaaaaaat tggaacctgt tgtttttgag
420
aaggtgaaaa tgccacagaa aaaagaagac ccacagctac ctcggaaaag ctccccgaaa
480
tccacagcgc ctgtcatgga tttgttgggc cttgatgctc ctgtggcctg ctccattgca
540
aatagtaaga ccagcaatac cctagagaag gatttagatc tgttggcctc tgttccatcc
600
ccttcttctt cgggttccag aaaggttgta ggttccatgc caactgcagg gagtgcgggc
660

```

tctgttctctg aaaatctgaa cctgtttccg gagccaggga gcaaatcaga agaaataggc  
720  
aagaaacagc tctctaaaga ctccattctt tcaactgtatg gatcccagac gcctcaaagc  
780  
cctactcaag caatgttcat ggctcccgc t agatggcat atcccacagc ctaccccagc  
840  
ttccccgggg ttacacctcc taacagcata atggggagca tgatgcctcc accagtaggc  
900  
atgggtgctc agccaggagc ttctgggatg gttgccccca tggccatgcc tgcaggctat  
960  
atgggtggca tgcaggcatc aatgatgggt gtgccgaatg gaatgatgac caccagcag  
1020  
gctggctaca tggcaggcat ggcagctatg cccagactg tgtatggggt ccagccagct  
1080  
cagcagctgc aatggaacct tactcagatg acccagcaga tggctgggat gaacttctat  
1140  
ggagccaatg gcatgatgaa ctatggacag tcaatgagtg gcggaaatgg acaggcagca  
1200  
aatcagactc tcagtctca gatgtgaaa taaaaacaaa acacctgtat ggctgccatt  
1260  
ctcttcagcc ctgctctcc cctttccaca gcctccaccc ctgaccccca tctcttttc  
1320  
ctacctctct gtttggttta gaaattgctc aataagtcac ttgggggttg gcatcctgcc  
1380  
cagccacttc ccaaacatga agacctctct gttgctttat gttgtacatg ccccatagcc  
1440  
atcccacgt cctccccagt cctctcctgg caccagcacc ttagaagttg ttggcagaag  
1500  
gcacttaaac tgtgggagaa gtgtgcacac ctttgagtcc cttccctcaa ggttaaagct  
1560  
cctgtcagac tctcagaagg gtctgtgggt gttgtatatt aggcaaacag gggaaagctt  
1620  
agaggtcctt ctatatgtgt taataagctg tttctaagtg tttaaatttg aaaagcatca  
1680  
tgtttctatg atttatggga atgaagcaag tactgaaatc aaattaaata ctccctgggt  
1740  
cctgggtcag tttgacccta gccctggggt gaggcaagcc cctcctatg aggatgagca  
1800  
aaaatactac tctcttcgcc ctgagttgct ttctggatct ggggcttcag gacttgctgc  
1860  
ttcagtcagc ctttattagc accaaagact ttatgaagat cccacacaca gacacacatc  
1920  
ccttcccgcc tccccctgc cttcagtagg atctggctcc gtggctggag gaccaacccc  
1980  
tatagtggga atgcagagct taacgtgtac tgcttggtg tgtgcgtgag tgtgtgtgtg  
2040  
tgtatgagtg tgtgttccgc ctcccacct ctccccatct gctctgggta tttttgtttt  
2100  
tgtttagttt taggtttaca acagagagga attaatttat cagcagccta aaactgttgt  
2160  
gtttttctta tggtttaaaa aacgccatgt cattgataac tccccttctc ccttcccctc  
2220  
tcccgtctg ctgatcactc tttcatgct gtgtatccag ggtgctctgt tccccaccg  
2280

ttcccaggtg tacgaggcag agggccggga cagctttcct ctcaagtcatt gttcacccca  
 2340  
 cttgaaaatt cagacaagaa aactttgctt aaaagatttc atgtgtggga accacagttc  
 2400  
 ctggctgcct ttctctgtg tatgtgtaaa ttccttaata aatattgcag ggaaggacaa  
 2460  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa  
 2492

<210> 4076

<211> 410

<212> PRT

<213> Homo sapiens

<400> 4076

Xaa	Leu	Glu	Glu	Asp	Asn	Lys	Phe	Cys	Ala	Asp	Cys	Gln	Ser	Lys	Gly
1				5					10					15	
Pro	Arg	Trp	Ala	Ser	Trp	Asn	Ile	Gly	Val	Phe	Ile	Cys	Ile	Arg	Cys
			20					25					30		
Ala	Gly	Ile	His	Arg	Asn	Leu	Gly	Val	His	Ile	Ser	Arg	Val	Lys	Ser
		35					40					45			
Val	Asn	Leu	Asp	Gln	Trp	Thr	Gln	Glu	Gln	Ile	Gln	Cys	Met	Gln	Glu
	50					55					60				
Met	Gly	Asn	Gly	Lys	Ala	Asn	Arg	Leu	Tyr	Glu	Ala	Tyr	Leu	Pro	Glu
65					70					75				80	
Thr	Phe	Arg	Arg	Pro	Gln	Ile	Asp	Pro	Ala	Val	Glu	Gly	Phe	Ile	Arg
				85					90					95	
Asp	Lys	Tyr	Glu	Lys	Lys	Lys	Tyr	Met	Asp	Arg	Ser	Leu	Asp	Ile	Asn
			100					105					110		
Ala	Phe	Arg	Lys	Glu	Lys	Asp	Asp	Lys	Trp	Lys	Arg	Gly	Ser	Glu	Pro
		115				120						125			
Val	Pro	Glu	Lys	Lys	Leu	Glu	Pro	Val	Val	Phe	Glu	Lys	Val	Lys	Met
	130					135					140				
Pro	Gln	Lys	Lys	Glu	Asp	Pro	Gln	Leu	Pro	Arg	Lys	Ser	Ser	Pro	Lys
145					150					155				160	
Ser	Thr	Ala	Pro	Val	Met	Asp	Leu	Leu	Gly	Leu	Asp	Ala	Pro	Val	Ala
				165					170					175	
Cys	Ser	Ile	Ala	Asn	Ser	Lys	Thr	Ser	Asn	Thr	Leu	Glu	Lys	Asp	Leu
		180					185					190			
Asp	Leu	Leu	Ala	Ser	Val	Pro	Ser	Pro	Ser	Ser	Ser	Gly	Ser	Arg	Lys
	195					200						205			
Val	Val	Gly	Ser	Met	Pro	Thr	Ala	Gly	Ser	Ala	Gly	Ser	Val	Pro	Glu
	210					215					220				
Asn	Leu	Asn	Leu	Phe	Pro	Glu	Pro	Gly	Ser	Lys	Ser	Glu	Glu	Ile	Gly
225					230					235				240	
Lys	Lys	Gln	Leu	Ser	Lys	Asp	Ser	Ile	Leu	Ser	Leu	Tyr	Gly	Ser	Gln
			245						250				255		
Thr	Pro	Gln	Met	Pro	Thr	Gln	Ala	Met	Phe	Met	Ala	Pro	Ala	Gln	Met
		260					265					270			
Ala	Tyr	Pro	Thr	Ala	Tyr	Pro	Ser	Phe	Pro	Gly	Val	Thr	Pro	Pro	Asn
	275					280						285			
Ser	Ile	Met	Gly	Ser	Met	Met	Pro	Pro	Pro	Val	Gly	Met	Val	Ala	Gln
	290					295					300				
Pro	Gly	Ala	Ser	Gly	Met	Val	Ala	Pro	Met	Ala	Met	Pro	Ala	Gly	Tyr



```

305          310          315          320
Met Gly Gly Met Gln Ala Ser Met Met Gly Val Pro Asn Gly Met Met
          325          330          335
Thr Thr Gln Gln Ala Gly Tyr Met Ala Gly Met Ala Ala Met Pro Gln
          340          345          350
Thr Val Tyr Gly Val Gln Pro Ala Gln Gln Leu Gln Trp Asn Leu Thr
          355          360          365
Gln Met Thr Gln Gln Met Ala Gly Met Asn Phe Tyr Gly Ala Asn Gly
          370          375          380
Met Met Asn Tyr Gly Gln Ser Met Ser Gly Gly Asn Gly Gln Ala Ala
385          390          395          400
Asn Gln Thr Leu Ser Pro Gln Met Trp Lys
          405          410

```

&lt;210&gt; 4077

&lt;211&gt; 684

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4077

```

cgcggtgtac acaactggga ctttgagcct cgaaagggtt ctcgctgcag catgcgctac
60
ctggcgctga tgggtgtctcg gcccgctactc aggctccggg agatcaaccc tctgctgttc
120
agctacgtgg aggagctggg ggagattcgc aagctgcgcc aggacatcct gctcatgaag
180
ccgtacttca tcacctgcag ggaggccatg gaggtcgtc tgctgctgca gctccaggat
240
cggcagcatt ttgtggagaa cgacgagatg tactctgtcc aggacctcct ggacgtgcat
300
gccggccgcc tgggctgctc gctcaccgag atccacacgc tcttcgcca gacatcaag
360
ctggactgcy agcgggtgcca ggccaagggc ttcgtgtgtg agctctgcag agaggcgac
420
gtgctgttcc cgttcgacag ccacacgtct gtgtgcgccg actgctccgc ggtcttccac
480
agggactgct actacgacaa ctccaccact tgteccaagt gtgcccggct cagcctgagg
540
aagcagtcgc tcttccagga gccaggtccc gatgtggagg cctagcgccg aggaacagtg
600
ctgggcaccc cgctctggcc cagcaggacc caccctgcca acatcaagtt gttccttctg
660
ctccagaaac ccctgggggtg cgca
684

```

&lt;210&gt; 4078

&lt;211&gt; 194

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4078

```

Arg Val Val His Asn Trp Asp Phe Glu Pro Arg Lys Val Ser Arg Cys
1          5          10          15
Ser Met Arg Tyr Leu Ala Leu Met Val Ser Arg Pro Val Leu Arg Leu

```

```

      20      25      30
Arg Glu Ile Asn Pro Leu Leu Phe Ser Tyr Val Glu Glu Leu Val Glu
      35      40      45
Ile Arg Lys Leu Arg Gln Asp Ile Leu Leu Met Lys Pro Tyr Phe Ile
      50      55      60
Thr Cys Arg Glu Ala Met Glu Ala Arg Leu Leu Leu Gln Leu Gln Asp
65      70      75      80
Arg Gln His Phe Val Glu Asn Asp Glu Met Tyr Ser Val Gln Asp Leu
      85      90      95
Leu Asp Val His Ala Gly Arg Leu Gly Cys Ser Leu Thr Glu Ile His
      100      105      110
Thr Leu Phe Ala Lys His Ile Lys Leu Asp Cys Glu Arg Cys Gln Ala
      115      120      125
Lys Gly Phe Val Cys Glu Leu Cys Arg Glu Gly Asp Val Leu Phe Pro
      130      135      140
Phe Asp Ser His Thr Ser Val Cys Ala Asp Cys Ser Ala Val Phe His
145      150      155      160
Arg Asp Cys Tyr Tyr Asp Asn Ser Thr Thr Cys Pro Lys Cys Ala Arg
      165      170      175
Leu Ser Leu Arg Lys Gln Ser Leu Phe Gln Glu Pro Gly Pro Asp Val
      180      185      190
Glu Ala

```

&lt;210&gt; 4079

&lt;211&gt; 783

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4079

```

tctagaactt aaacaatatt agcaatgcct caagagcccc cagtgaagtt ttccagaaac
60
ctggttagaa tccttaggcg ggacccacct agcagtgggtg ccttctcact ttgtcctggc
120
atggccaggg ttgacctctg tagagggaca tccctcgtgt ttccccagg actgaggaag
180
gttagaatgc agagttctct ccggagatgg ctgagctctc tttaggccca tccaccctg
240
ctctcctggc tgtgcatgca aggcttctct gttagggcag tgcagcttgg agggtagaca
300
cactgagggt gtaagagcct gtgtgaacag ctccatctg cagagcctcc tctccttaca
360
gatatatccc aaggcagggg tcccatattc cctgcgggtc tgagctggca ttacctgcag
420
cagatggatc actggacagc gagtccggaa atcatccttc tccaccaagc tttcccactt
480
aatagcttgg taacctttga cagatgattt ctttctttcc taattttag catggggaca
540
gtgagggata caacagcagt ttctgaaaca gcagtgacca ccatttactg catttacccc
600
aggccaggca ctgtgtgtgg gcatggcatt taatcccggt aacactctat aagatagggg
660
ctgttatgac ctcatctctc cgatgaggaa gccagggctc agagaagttg aaggcatgag
720

```

ccccgttggt atgaagtcac tagatagtag agctggggat ttgaacccca gaggccact  
780

nta

783

<210> 4080

<211> 101

<212> PRT

<213> Homo sapiens

<400> 4080

Met Pro Ala Gln Asn Arg Arg Glu Tyr Gly Thr Pro Ala Leu Gly Tyr  
1 5 10 15  
Ile Cys Lys Glu Arg Arg Leu Cys Arg Trp Glu Leu Phe Thr Gln Ala  
20 25 30  
Leu Thr Pro Ser Val Cys Leu Pro Ser Lys Leu His Cys Pro Asn Arg  
35 40 45  
Glu Ala Leu His Ala Gln Pro Gly Glu Gln Gly Trp Met Gly Leu Lys  
50 55 60  
Arg Ala Gln Pro Ser Pro Glu Arg Thr Leu His Ser Asn Leu Pro Gln  
65 70 75 80  
Ser Trp Gly Lys His Glu Gly Cys Pro Ser Thr Glu Val Asn Pro Gly  
85 90 95  
His Ala Arg Thr Lys  
100

<210> 4081

<211> 645

<212> DNA

<213> Homo sapiens

<400> 4081

agaattcctc cctggatgga agtgggtcctt atacccatga caggaaaacc aagtctgtac  
60  
ccaggattgt tcctttttac cactccttgt agactggtac ggcctgtgca gaacttagca  
120  
ttgggcaaag aagagctaata tggaactatg gaacagatct tcatgaatgt cgctatcttt  
180  
gaggatgaag tttttgctgg agttaccaca caccaggaac tctttccaca cagcctgctg  
240  
agtgtgattg ccaacttcat ccctttctct gatcacaacc agagtccacg gaacatgtac  
300  
caatgccaga tgggtaagca aactatgggc tttccacttc tcacttatca agaccgatcg  
360  
gataacaaac tgtatcgtct tcagactcct cagagtcctt tgggtgagacc ctccatgtat  
420  
gattattatg acatggataa ctatccaatt gggaccaatg ccatcgttgc tgtgatttct  
480  
tacactggct atgatatgga agatgccatg attgtgaata aggcctcttg ggaacgaggg  
540  
tttgcccatg gaagtgtcta caagtctgag ttcatagacc tctctgaaaa aattaaacaa  
600  
ggagatagta gcctgggtgtt tggcatcaaa cctgggtgacc cacgc  
645

<210> 4082  
 <211> 215  
 <212> PRT  
 <213> Homo sapiens

<400> 4082  
 Arg Ile Pro Pro Trp Met Glu Val Val Leu Ile Pro Met Thr Gly Lys  
 1 5 10 15  
 Pro Ser Leu Tyr Pro Gly Leu Phe Leu Phe Thr Thr Pro Cys Arg Leu  
 20 25 30  
 Val Arg Pro Val Gln Asn Leu Ala Leu Gly Lys Glu Glu Leu Ile Gly  
 35 40 45  
 Thr Met Glu Gln Ile Phe Met Asn Val Ala Ile Phe Glu Asp Glu Val  
 50 55 60  
 Phe Ala Gly Val Thr Thr His Gln Glu Leu Phe Pro His Ser Leu Leu  
 65 70 75 80  
 Ser Val Ile Ala Asn Phe Ile Pro Phe Ser Asp His Asn Gln Ser Pro  
 85 90 95  
 Arg Asn Met Tyr Gln Cys Gln Met Gly Lys Gln Thr Met Gly Phe Pro  
 100 105 110  
 Leu Leu Thr Tyr Gln Asp Arg Ser Asp Asn Lys Leu Tyr Arg Leu Gln  
 115 120 125  
 Thr Pro Gln Ser Pro Leu Val Arg Pro Ser Met Tyr Asp Tyr Tyr Asp  
 130 135 140  
 Met Asp Asn Tyr Pro Ile Gly Thr Asn Ala Ile Val Ala Val Ile Ser  
 145 150 155 160  
 Tyr Thr Gly Tyr Asp Met Glu Asp Ala Met Ile Val Asn Lys Ala Ser  
 165 170 175  
 Trp Glu Arg Gly Phe Ala His Gly Ser Val Tyr Lys Ser Glu Phe Ile  
 180 185 190  
 Asp Leu Ser Glu Lys Ile Lys Gln Gly Asp Ser Ser Leu Val Phe Gly  
 195 200 205  
 Ile Lys Pro Gly Asp Pro Arg  
 210 215

<210> 4083  
 <211> 2983  
 <212> DNA  
 <213> Homo sapiens

<400> 4083  
 aactgctcac ccagaactcc ggctcagaag gcaccaccac tgtggagggtc tcccttggcg  
 60  
 gctctgaagg gcagttactt acgtcctatt ctgtggtccc taagtacctt gcacgtacct  
 120  
 ttattttaaac acttactgca atacattcca gttagctggt tatgaacctg tctaccatga  
 180  
 aaaactaaat gccttgaggg gaaggccgct gttcatttct tatctatttt gcctacacgg  
 240  
 tttcttgccc tcagtaagca ttttaataaac ttttggttaa catatgaatg aataattaaa  
 300  
 ttcaaaaata aattcttgac tgttttctcc catctctctc aaatgtttgc tctggaatat  
 360

ggaaacagga tggcaagttt aaaacagatc tggatatgtg gcttcaggga cacatctgta  
420  
caaatctata tctcacaagt ggcaaagaga taaaaactcc attctttcct cctctgaatt  
480  
gttaatatct ctaaactctaa aggcaggcag caggtttctc tgagaacaca tgcaacctca  
540  
gctcaatgca gtgacagtgc taggataccc ggagagccag agctgtggga gggcagaggt  
600  
agaacaagag agggctctcag catcaggcca agacaaagcc ctacttacct ccttcttggt  
660  
aattcatgat gttcaggga aacagcattg cattggagaa cgtgggtgcc tcttctttac  
720  
ttgcaaagtt taagccgtag acctggcggg catctcgcca ctggtggaag gttggcgtgg  
780  
cctgattgta cttcagccct ttcacgattg aataattgat cacaacctgc tgatcctgca  
840  
acttgactcc aacgactctg aagggtgtgc tggcagtgtt gtggtagatg ttgatccggc  
900  
tgaatccctg ctggccaggt ttgattggtg cccatttctt actggtggtc ctctgatcaa  
960  
cataggctgg tgggagtaca ggactcgccct cctcagggtt ccctgtgctg ccacttttca  
1020  
gccatggcca caagtgaaca gagtatctgc caagcccggg cttccgtgat ggtctacgat  
1080  
gacaccagta agaaatgggt accaatcaaa cctggccagc agggattcag ccggatcaac  
1140  
atctaccaca aactgccag caacaccttc agagtcgttg gagtcaagtt gcaggatcag  
1200  
caggttgtga tcaattattc aatcgtgaaa gggctgaagt acaatcaggc cacgccaacc  
1260  
ttccaccagt ggcgagatgc ccgccaggtc tacggcttaa actttgcaag taaagaagag  
1320  
gcaaccacat tctccaatgc aatgctgttt gccctgaaca tcatgaattc ccaagaagga  
1380  
ggccctcca gccagcgtca ggtgcagaat ggccctctc ctgatgagat ggacatccag  
1440  
agaagacaag tgatggagca gcaccagcag cagcgtcagg aatctctaga aagaagaacc  
1500  
tcggccacag ggcccatcct cccaccagga catccttcat ctgcagccag cggcccgtc  
1560  
tcatgtagtg ggcctccacc gccccccca cccccagtc cactccacc cactggggct  
1620  
acccacctc cccaccccc actgccagcc ggaggagccc aggggtccag ccacgacgag  
1680  
agctccatgt caggactggc cgctgccata gctggggcca agctgagaag agtccaacgg  
1740  
ccagaagacg catctggagg ctccagtcct agtgggacct caaagtccga tgccaaccgg  
1800  
gcaagcagcg ggggtggcgg aggaggcctc atggaggaaa tgaacaaact gctggccaag  
1860  
aggagaaaag cagcctccca gtcagacaag ccagccgaga agaaggaaga tgaaagccaa  
1920  
atggaagatc ctagtacctc cccctctccg gggaccgag cagccagcca gccacctaac  
1980

tcctcagagg ctggccggaa gccctgggag cggagcaact cggaggagaa gcctgtgtcc  
 2040  
 tcgattctgt ccagaacccc gtctgtggca aagagccccg aagctaagag cccccttcag  
 2100  
 tcgcagcctc actctaggat gaagcctgct gggagcgtga atgacatggc cctggatgcc  
 2160  
 ttcgacttgg accggatgaa gcaggagatc ctagaggagg tggtagagaga gctccacaag  
 2220  
 gtgaaggagg agatcatcga cgccatcagg caggagctga gtgggatcag caccacgtaa  
 2280  
 ggggccggcc tcgctgcgct gattcgtcga gcccatccgg cgacagagga cagccagaag  
 2340  
 cccagccagc cccagactcc agtgcaccag agcacgcaca ggagcctggg cgcgctgctg  
 2400  
 tgaaacgtcc tgacctgtga tcacacatga cagtggaggaa accaagtgcg actcctgggt  
 2460  
 tttttttaga ttctgcctga cacggaacac caggtctgct cgtctttttt gtgttttata  
 2520  
 tttgcttatt taaggtagat ttctttgggt ttctagagac gccctaagt cactgtcttc  
 2580  
 attagacggt ttccagggtt tctcccagggt gacgctgtta gcgcctcagc tggcggtgac  
 2640  
 agccggccca gcgtggcgcc accacacacc gcagagctgt ccaggcacag ctccgtcccc  
 2700  
 agcgctcatg gtgttgaaac tgtctgtcat gcaccacggt gtctgtgtcc acacagtaat  
 2760  
 aaacggttta ctgtccgcaa aaaaaaact ttgccggtct cagtctttaa tcgtggcagg  
 2820  
 gcctcacgca cgcgcgcacg tacacacact caggettcag atcttggtga aagctgcat  
 2880  
 attgacactc tgcactttct cttctatctt gtattatat ctccggcagt ctgtcccacc  
 2940  
 ttgtcgtcct ccaccacaca ctgaatctgt agctccggcc ggc  
 2983

<210> 4084

<211> 362

<212> PRT

<213> Homo sapiens

<400> 4084

Gln	Asp	Gln	Gln	Val	Val	Ile	Asn	Tyr	Ser	Ile	Val	Lys	Gly	Leu	Lys
1				5					10					15	
Tyr	Asn	Gln	Ala	Thr	Pro	Thr	Phe	His	Gln	Trp	Arg	Asp	Ala	Arg	Gln
			20					25					30		
Val	Tyr	Gly	Leu	Asn	Phe	Ala	Ser	Lys	Glu	Glu	Ala	Thr	Thr	Phe	Ser
		35				40					45				
Asn	Ala	Met	Leu	Phe	Ala	Leu	Asn	Ile	Met	Asn	Ser	Gln	Glu	Gly	Gly
	50					55				60					
Pro	Ser	Ser	Gln	Arg	Gln	Val	Gln	Asn	Gly	Pro	Ser	Pro	Asp	Glu	Met
65				70					75					80	
Asp	Ile	Gln	Arg	Arg	Gln	Val	Met	Glu	Gln	His	Gln	Gln	Gln	Arg	Gln
			85					90						95	
Glu	Ser	Leu	Glu	Arg	Arg	Thr	Ser	Ala	Thr	Gly	Pro	Ile	Leu	Pro	Pro

```

      100      105      110
Gly His Pro Ser Ser Ala Ala Ser Ala Pro Val Ser Cys Ser Gly Pro
      115      120      125
Pro Pro Pro Pro Pro Pro Pro Val Pro Pro Pro Pro Thr Gly Ala Thr
      130      135      140
Pro Pro Pro Pro Pro Pro Leu Pro Ala Gly Gly Ala Gln Gly Ser Ser
145      150      155      160
His Asp Glu Ser Ser Met Ser Gly Leu Ala Ala Ile Ala Gly Ala
      165      170      175
Lys Leu Arg Arg Val Gln Arg Pro Glu Asp Ala Ser Gly Gly Ser Ser
      180      185      190
Pro Ser Gly Thr Ser Lys Ser Asp Ala Asn Arg Ala Ser Ser Gly Gly
      195      200      205
Gly Gly Gly Gly Leu Met Glu Glu Met Asn Lys Leu Leu Ala Lys Arg
      210      215      220
Arg Lys Ala Ala Ser Gln Ser Asp Lys Pro Ala Glu Lys Lys Glu Asp
225      230      235      240
Glu Ser Gln Met Glu Asp Pro Ser Thr Ser Pro Ser Pro Gly Thr Arg
      245      250      255
Ala Ala Ser Gln Pro Pro Asn Ser Ser Glu Ala Gly Arg Lys Pro Trp
      260      265      270
Glu Arg Ser Asn Ser Val Glu Lys Pro Val Ser Ser Ile Leu Ser Arg
      275      280      285
Thr Pro Ser Val Ala Lys Ser Pro Glu Ala Lys Ser Pro Leu Gln Ser
      290      295      300
Gln Pro His Ser Arg Met Lys Pro Ala Gly Ser Val Asn Asp Met Ala
305      310      315      320
Leu Asp Ala Phe Asp Leu Asp Arg Met Lys Gln Glu Ile Leu Glu Glu
      325      330      335
Val Val Arg Glu Leu His Lys Val Lys Glu Glu Ile Ile Asp Ala Ile
      340      345      350
Arg Gln Glu Leu Ser Gly Ile Ser Thr Thr
      355      360

```

&lt;210&gt; 4085

&lt;211&gt; 2673

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4085

```

ggattcaaca catcccaggg caagctgctg cgcaccatct tcttcgggggt caagaggggtg
60

```

```

actgccaaca acctggagac cttcatcttc atcctcttcc tcctggtggt tgccatcgct
120

```

```

gcagctgcct atgtatggat tgaaggtacc aaggaccca gccggaaccg ctacaagctg
180

```

```

tttctggagt gcacctgat cctcacctcg gtcgtgcctc ctgagctgcc catcgagctg
240

```

```

tcctggcgg tcaacacctc cctcatcgcc ctggccaagc tctacatgta ctgcacagag
300

```

```

ccctccgga tccccttgc tggcaaggtc gaggtgtgct gctttgaaa gacggggacg
360

```

```

ttgaccagt acagcctggt ggtgcgcggt gtggccgggc tgagagacgg gaaggaggtg
420

```

accccagtgt ccagcatccc tgtagaaaca caccggggccc tggcctcgtg ccactcgtc  
480  
atgcagctgg acgacggcac cctcgtgggt gaccctctag agaaggccat gctgacggcc  
540  
gtggactgga cgctgaccaa agatgagaaa gtattcccc gaagtattaa aactcagggg  
600  
ctgaaaattc accagcgctt tcattttgcc agtgccctga agcgaatgtc cgtgcttgcc  
660  
tcgtatgaga agctgggctc caccgacctc tgctacatcg cggccgtgaa gggggccccc  
720  
gaaactctgc actccatgtt ctcccagtgc ccgcccgact accaccacat ccacaccgag  
780  
atctcccggg aaggagcccg tgtcctggcg ctgggtaca aggagctggg acacctcact  
840  
caccagcagg cccgggaggt caagcgggag gccctggaat gcagcctcaa gtttgtgggc  
900  
ttcattgtgg tctcctgccc gctcaaggct gactccaagg ccgtgatccg ggagatccag  
960  
aatgcgtccc accgggtggt catgatcacg ggagacaacc cgctcactgc atgccacgtg  
1020  
gcccaggagc tgcacttcat tgaaaaggcc cacacgctga tcctgcagcc tccctccgag  
1080  
aaaggccggc agtgcgagtg gcgtccatt gacggcagca tcgtgctgcc cctgnngccc  
1140  
ggggctcccc aaaggcactg gccctggagt acgcacntgt gcctcacagg cgacggcttg  
1200  
gcccacctgc aggccaccga cccccagcag ctgctccgcc tcatcccca tgtgcaggtg  
1260  
ttcgcccggtg tggctcccaa gcagaaggag tttgtcatca ccagcctgaa ggagctgggc  
1320  
tacgtgacct tcatgtgtgg ggatggcacc aacgacgtgg gcgccctgaa gcatgctgac  
1380  
gtgggtgtgg cgctcttggc caatgccctt gagcgggttg tcgagcggcg acggcggccc  
1440  
cgggacagcc caacctgag caacagtggc atcagagcca cctccaggac agccaagcag  
1500  
cggtcggggc tccctccctc cgaggagcag ccaacctccc agagggaccg cctgagccag  
1560  
gtgctgcgag acctcgagga cgagagtacg cccattgtga aactggggga tgccagcatc  
1620  
gcagaccctt tcacctcaa gctctcatcc atccagtga tctgccacgt gatcaagcag  
1680  
ggccgctgca cgctgggtgac cagctacag atgttcaaga tcctggcgct caatgccctc  
1740  
atcctggcct acagccagag cgtcctctac ctggagggag tcaagttcag tgacttccag  
1800  
gccaccctac aggggctgct gctggccggc tgcttcctct tcactcccc ttccaagccc  
1860  
ctcaagacct tctcccgaga acggcccctg cccaacatct tcaacctgta caccatctc  
1920  
accgtcatgc tccagttctt tgtgcacttc ctgagccttg tctacctgta ccgtgaggcc  
1980  
caggcccggg gccccnngag anagcaggag cagttcgtgg acttgtataa ggagtttgag  
2040



ccaagcctgg tcaacagcac cgtctacatc atggccatgg ccatgcagat ggccaccttc  
 2100  
 gccatcaatt acaaaggccc gcccttcatt gagagcctgc ccgagaacaa gcccttgggtg  
 2160  
 tggagtctgg cagtttctact cctggccatc attggcctgc tcctcggtc ctcgcccag  
 2220  
 ttcaacagcc agtttggcct cgtggacatc cctgtggagt tcaagctggt cattgcccag  
 2280  
 gtctgtctcc tggacttctg cctggcgctc ctggccgacc gcgtcctgca gttcttctg  
 2340  
 gggaccccgga agctgaaagt gccttctga gatggcagt ctggtaccca ctgcccaccc  
 2400  
 tggctgccgc tgggcgggaa ccccaacagg gccccgggag ggaacctgc ccccaacccc  
 2460  
 ccacagcaag gctgtacagt ctgcccttg gaagactgag ctgggacccc cacagccatc  
 2520  
 cgctggcttg gccagcagaa ccagcccaa gccagcacct ttggtaaata aagcagcatc  
 2580  
 tgagatttta aaaaaaaaaa aaaaaaaccc cggaaatttt tgaattggta aattcgga  
 2640  
 acccccgatt tttcttttaa ctgttcctg ttt  
 2673

<210> 4086

<211> 789

<212> PRT

<213> Homo sapiens

<400> 4086

Gly	Phe	Asn	Thr	Ser	Gln	Gly	Lys	Leu	Leu	Arg	Thr	Ile	Phe	Phe	Gly
1				5				10					15		
Val	Lys	Arg	Val	Thr	Ala	Asn	Asn	Leu	Glu	Thr	Phe	Ile	Phe	Ile	Leu
			20					25				30			
Phe	Leu	Leu	Val	Phe	Ala	Ile	Ala	Ala	Ala	Ala	Tyr	Val	Trp	Ile	Glu
			35				40					45			
Gly	Thr	Lys	Asp	Pro	Ser	Arg	Asn	Arg	Tyr	Lys	Leu	Phe	Leu	Glu	Cys
			50				55				60				
Thr	Leu	Ile	Leu	Thr	Ser	Val	Val	Pro	Pro	Glu	Leu	Pro	Ile	Glu	Leu
65						70				75				80	
Ser	Leu	Ala	Val	Asn	Thr	Ser	Leu	Ile	Ala	Leu	Ala	Lys	Leu	Tyr	Met
			85					90					95		
Tyr	Cys	Thr	Glu	Pro	Phe	Arg	Ile	Pro	Phe	Ala	Gly	Lys	Val	Glu	Val
			100					105					110		
Cys	Cys	Phe	Asp	Lys	Thr	Gly	Thr	Leu	Thr	Ser	Asp	Ser	Leu	Val	Val
			115				120					125			
Arg	Gly	Val	Ala	Gly	Leu	Arg	Asp	Gly	Lys	Glu	Val	Thr	Pro	Val	Ser
			130				135					140			
Ser	Ile	Pro	Val	Glu	Thr	His	Arg	Ala	Leu	Ala	Ser	Cys	His	Ser	Leu
145					150					155				160	
Met	Gln	Leu	Asp	Asp	Gly	Thr	Leu	Val	Gly	Asp	Pro	Leu	Glu	Lys	Ala
			165					170					175		
Met	Leu	Thr	Ala	Val	Asp	Trp	Thr	Leu	Thr	Lys	Asp	Glu	Lys	Val	Phe
			180					185					190		
Pro	Arg	Ser	Ile	Lys	Thr	Gln	Gly	Leu	Lys	Ile	His	Gln	Arg	Phe	His

	195		200		205	
Phe	Ala	Ser	Ala	Leu	Lys	Arg
210						Met
Leu	Gly	Ser	Thr	Asp	Leu	Cys
225						Tyr
Glu	Thr	Leu	His	Ser	Met	Phe
						Ser
Ile	His	Thr	Glu	Ile	Ser	Arg
260						Glu
Tyr	Lys	Glu	Leu	Gly	His	Leu
275						Thr
Arg	Glu	Ala	Leu	Glu	Cys	Ser
290						Leu
Ser	Cys	Pro	Leu	Lys	Ala	Asp
305						Ser
Asn	Ala	Ser	His	Arg	Val	Val
						Met
Ala	Cys	His	Val	Ala	Gln	Glu
340						Leu
Leu	Ile	Leu	Gln	Pro	Pro	Ser
355						Glu
Ser	Ile	Asp	Gly	Ser	Ile	Val
370						Leu
Arg	His	Trp	Pro	Trp	Ser	Thr
385						His
Ala	His	Leu	Gln	Ala	Thr	Asp
						Pro
His	Val	Gln	Val	Phe	Ala	Arg
420						Val
Ile	Thr	Ser	Leu	Lys	Glu	Leu
435						Gly
Gly	Thr	Asn	Asp	Val	Gly	Ala
450						Leu
Leu	Leu	Ala	Asn	Ala	Pro	Glu
465						Arg
Arg	Asp	Ser	Pro	Thr	Leu	Ser
						Asn
Thr	Ala	Lys	Gln	Arg	Ser	Gly
500						Leu
Ser	Gln	Arg	Asp	Arg	Leu	Ser
515						Gln
Ser	Thr	Pro	Ile	Val	Lys	Leu
530						Gly
Thr	Ser	Lys	Leu	Ser	Ser	Ile
545						Gln
Gly	Arg	Cys	Thr	Leu	Val	Thr
						Thr
Leu	Asn	Ala	Leu	Ile	Leu	Ala
580						Tyr
Gly	Val	Lys	Phe	Ser	Asp	Phe
595						Gln
Ala	Gly	Cys	Phe	Leu	Phe	Ile
610						Ser
Ser	Arg	Glu	Arg	Pro	Leu	Pro
						Asn

625                                  630                                  635                                  640  
 Thr Val Met Leu Gln Phe Phe Val His Phe Leu Ser Leu Val Tyr Leu  
                                 645                                  650                                  655  
 Tyr Arg Glu Ala Gln Ala Arg Ser Pro Xaa Arg Xaa Gln Glu Gln Phe  
                                 660                                  665                                  670  
 Val Asp Leu Tyr Lys Glu Phe Glu Pro Ser Leu Val Asn Ser Thr Val  
                                 675                                  680                                  685  
 Tyr Ile Met Ala Met Ala Met Gln Met Ala Thr Phe Ala Ile Asn Tyr  
                                 690                                  695                                  700  
 Lys Gly Pro Pro Phe Met Glu Ser Leu Pro Glu Asn Lys Pro Leu Val  
 705                                  710                                  715                                  720  
 Trp Ser Leu Ala Val Ser Leu Leu Ala Ile Ile Gly Leu Leu Leu Gly  
                                 725                                  730                                  735  
 Ser Ser Pro Asp Phe Asn Ser Gln Phe Gly Leu Val Asp Ile Pro Val  
                                 740                                  745                                  750  
 Glu Phe Lys Leu Val Ile Ala Gln Val Leu Leu Leu Asp Phe Cys Leu  
                                 755                                  760                                  765  
 Ala Leu Leu Ala Asp Arg Val Leu Gln Phe Phe Leu Gly Thr Pro Lys  
                                 770                                  775                                  780  
 Leu Lys Val Pro Ser  
 785

&lt;210&gt; 4087

&lt;211&gt; 959

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4087

aggggaagtc tggagaaggc attgtttcaa ttattaaaag tgtgggggca gtgggcggaa  
 60  
 caaacgcgcc gactacagag gctggacgta agcttagcgg tggcgcgcggt gcgcagcgcc  
 120  
 ggcccagatt gccaaaacaa aggggatttg gtgatggagg ctttgttaga aggaatacaa  
 180  
 aatcgagggc atggtggggg atttttgaca tcttgcaag cagaactaca ggagctcatg  
 240  
 aaacagattg acataatggt ggctcataaa aaatctgaat gggaaggacg tacacatgct  
 300  
 ctagaaactt gcttgaaaat ccgtgaacag gaacttaaga gtcttaggag tcagttggat  
 360  
 gtgacacata aggaggttgg aatgttgcag cagcaggtag aagaacatga aaaaatcaag  
 420  
 caagagatga ccatggaata taagcaggag ttgaagaaac tacatgaaga attatgcata  
 480  
 ctgaagagaa gctatgaaaa gcttcagaaa aagcaaatga gggaattcag aggaaatacc  
 540  
 aaaaatcaca gggaagatcg gtctgaaatt gagagggtta ctgcaaaaat agaggaattc  
 600  
 cgtcagaaat cgctggactg ggagaagcaa cgcttgattt atcagcaaca ggtatcttca  
 660  
 ctggaggcac aaaggaaggc tctggctgaa caatcagaga taattcaggc tcagcttgtc  
 720  
 aatcggaaac agaaattaga gtctgtggaa ctttctagcc aatcagaaat tcaacactta  
 780

agcagtaaac tggagcgggc taatgacact atctgtgccca atgagttgga aatagagcgc  
 840  
 ctcaccatga gggccaatga cttgggttga accagtatga ctgtcctaca ggagcagcag  
 900  
 caaaaagaag aaaaattgag ggaatctgaa aaactattag aggctctgca ggaaaaaaa  
 959

<210> 4088

<211> 319

<212> PRT

<213> Homo sapiens

<400> 4088

Arg	Gly	Ser	Leu	Glu	Lys	Ala	Leu	Phe	Gln	Leu	Leu	Lys	Val	Trp	Gly
1				5					10					15	
Gln	Trp	Ala	Glu	Gln	Thr	Arg	Arg	Leu	Gln	Arg	Leu	Asp	Val	Ser	Leu
		20						25					30		
Ala	Val	Ala	Arg	Val	Arg	Ser	Ala	Gly	Pro	Ser	Cys	Gln	Asn	Lys	Gly
		35					40					45			
Asp	Leu	Val	Met	Glu	Ala	Leu	Leu	Glu	Gly	Ile	Gln	Asn	Arg	Gly	His
	50					55					60				
Gly	Gly	Gly	Phe	Leu	Thr	Ser	Cys	Glu	Ala	Glu	Leu	Gln	Glu	Leu	Met
65				70					75					80	
Lys	Gln	Ile	Asp	Ile	Met	Val	Ala	His	Lys	Lys	Ser	Glu	Trp	Glu	Gly
			85						90					95	
Arg	Thr	His	Ala	Leu	Glu	Thr	Cys	Leu	Lys	Ile	Arg	Glu	Gln	Glu	Leu
			100					105					110		
Lys	Ser	Leu	Arg	Ser	Gln	Leu	Asp	Val	Thr	His	Lys	Glu	Val	Gly	Met
		115				120						125			
Leu	His	Gln	Gln	Val	Glu	Glu	His	Glu	Lys	Ile	Lys	Gln	Glu	Met	Thr
	130					135					140				
Met	Glu	Tyr	Lys	Gln	Glu	Leu	Lys	Lys	Leu	His	Glu	Glu	Leu	Cys	Ile
145				150					155					160	
Leu	Lys	Arg	Ser	Tyr	Glu	Lys	Leu	Gln	Lys	Lys	Gln	Met	Arg	Glu	Phe
			165					170					175		
Arg	Gly	Asn	Thr	Lys	Asn	His	Arg	Glu	Asp	Arg	Ser	Glu	Ile	Glu	Arg
		180						185					190		
Leu	Thr	Ala	Lys	Ile	Glu	Glu	Phe	Arg	Gln	Lys	Ser	Leu	Asp	Trp	Glu
	195						200					205			
Lys	Gln	Arg	Leu	Ile	Tyr	Gln	Gln	Gln	Val	Ser	Ser	Leu	Glu	Ala	Gln
	210					215					220				
Arg	Lys	Ala	Leu	Ala	Glu	Gln	Ser	Glu	Ile	Ile	Gln	Ala	Gln	Leu	Val
225				230					235					240	
Asn	Arg	Lys	Gln	Lys	Leu	Glu	Ser	Val	Glu	Leu	Ser	Ser	Gln	Ser	Glu
			245					250					255		
Ile	Gln	His	Leu	Ser	Ser	Lys	Leu	Glu	Arg	Ala	Asn	Asp	Thr	Ile	Cys
		260						265					270		
Ala	Asn	Glu	Leu	Glu	Ile	Glu	Arg	Leu	Thr	Met	Arg	Val	Asn	Asp	Leu
	275					280						285			
Val	Gly	Thr	Ser	Met	Thr	Val	Leu	Gln	Glu	Gln	Gln	Gln	Lys	Glu	Glu
	290					295					300				
Lys	Leu	Arg	Glu	Ser	Glu	Lys	Leu	Leu	Glu	Ala	Leu	Gln	Glu	Lys	
305					310					315					

<210> 4089  
 <211> 511  
 <212> DNA  
 <213> Homo sapiens

<400> 4089  
 accggtctcc gcgtcttggt ggtagtgggc ccctgggccc agctgtcttt tcttttacct  
 60  
 ttttgtcttg cgtctttatt tctatgttct cttgtctctg cacatgggga gaaaccacc  
 120  
 aaccctgtgg ggctggcccc tacacagttt ttaaggggta cagggaaggg aagaaacagg  
 180  
 caccatgtgg ggcagggggt ctgcttctat catatttcca ttttggtggt ttaggagatc  
 240  
 cttccaactc tactaacat tattttccag agaacaaaag aaaaactatg ctctccaaga  
 300  
 acatgtttcc tttgtaattt ttctgtcttc aaactttttc tggagagatg agtcatttga  
 360  
 cctgacattg agaataggct tgaagccctt tgagaggaca aaggagatag agtcagcatt  
 420  
 cctatctcca tgctctgaag atccaagtca cttgggttact gctccctggg ctgtctattt  
 480  
 tcaactgttta tggaagatag agtacacctg t  
 511

<210> 4090  
 <211> 109  
 <212> PRT  
 <213> Homo sapiens

<400> 4090  
 Met Trp Gly Arg Gly Ser Ala Ser Ile Ile Phe Pro Phe Cys Cys Phe  
 1 5 10 15  
 Arg Arg Ser Phe Gln Leu Ser Leu Thr Leu Phe Ser Arg Glu Gln Lys  
 20 25 30  
 Lys Asn Tyr Ala Leu Gln Glu His Val Ser Phe Val Ile Phe Leu Ser  
 35 40 45  
 Ser Asn Phe Phe Trp Arg Asp Glu Ser Phe Asp Leu Thr Leu Arg Ile  
 50 55 60  
 Gly Leu Lys Pro Phe Glu Arg Thr Lys Glu Ile Glu Ser Ala Phe Leu  
 65 70 75 80  
 Ser Pro Cys Ser Glu Asp Pro Ser His Leu Val Thr Ala Pro Trp Ala  
 85 90 95  
 Val Tyr Phe His Cys Leu Trp Lys Ile Glu Tyr Thr Cys  
 100 105

<210> 4091  
 <211> 1526  
 <212> DNA  
 <213> Homo sapiens

<400> 4091  
 cacggcggct acaccggcag cggaccgggc tttggagaac ctcgggactc aggtgctgag  
 60

gtgcccagcg gctccggacg tgctacgggg tgcgagcgcg ggggagttcg gggcgcacga  
120  
caaggaaggg cccccgggag ctctatatgg aggaaggagc ccagaatggg gtgcaccagg  
180  
aagacaaaaa ctttgggtgtc cacttgcggtg atcctgagcg gcatgactaa catcatctgc  
240  
ctgctctacg tgggctgggt caccaactac atcgccagcg tgtatgtgcg ggggcaggag  
300  
ccggcgcccc acaagaagct ggaggaagac aaaggggaca ctctgaagat tattgagcgg  
360  
ctggaccacc tggagaatgt catcaagcag cacattcaag gctataggag aaatttctcc  
420  
cttctgaatg tgtccaacta actctgttca cctgagaaat catattcccc agctctgggt  
480  
atccctgaat aaccacagga gaacagttcc aggccctgat aagtcagcta ttgcaagggg  
540  
gacctggctg gaagatatga aggaaaaata tcattcttga actaataagt tgagagatca  
600  
cagccttcag gggaccagaa ggggaaggctg aacagagaag ggcaatttca cgttcgccat  
660  
gtccatattt ctatcgatc gagccatctc accttacagg caggaagtt ttgagcttag  
720  
agaatgggat gcgtcaagaa aaccgtgggt cccccagctc tgttcttggg ttcatgtcct  
780  
gttgtttcat cctgtgtaga ctggagtcag ggtctacaca gttggaattc tatggaacca  
840  
agatgctgtg tggcagatgg atgtggactc caactgtgac aatccagaag gccttgggga  
900  
cttgtttcat gaacagctcc ctgtaggatc tctgttgggg tgggggattc taggggcatc  
960  
tccgcagttt tcttctgaaa acaaaacgaa tacaagttgg gcaggtgcaa caactgtgca  
1020  
tgcagtcacc tcccagggtt ggctagcagt attgttgggt accgtaagca cttagcattg  
1080  
ttaagtgagc ataagtaaca agatgcaaca gcctctggcc aagttttgaa gattttgttt  
1140  
taaagtatgc ttttagatgt tgacattcat gattattaaa aggaacaaaa ctcaatttgg  
1200  
gggtctcaaga gccacaattc tagacttcta ggatgtcagg agccatgctc ttaagcttct  
1260  
caccctgctg ttttaatgag attaagtatt attttccact gagcacctac ctgtgatgtt  
1320  
cataaaaaag tgaaataaat gactcacatg gagatttggg aggatattcac tgtggaaagt  
1380  
agatgttaac agcctctaga aatatgataa ttatcagcta tttgagatgc agtcactgta  
1440  
atgtgataac aagatgtgtt gtgcaggtag aaagcatgga gagaaatggc acaaagtaga  
1500  
gttataagaa aaaaaaaaaa aaaaaa  
1526

&lt;210&gt; 4092

&lt;211&gt; 146

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4092

His Gly Gly Tyr Thr Gly Ser Gly Pro Gly Phe Gly Glu Pro Arg Asp  
 1 5 10 15  
 Ser Gly Ala Glu Val Pro Ser Gly Ser Gly Arg Ala Thr Gly Cys Glu  
 20 25 30  
 Arg Gly Gly Val Arg Gly Ala Arg Gln Gly Arg Ala Pro Gly Ser Ser  
 35 40 45  
 Ile Trp Arg Lys Glu Pro Arg Met Val Cys Thr Arg Lys Thr Lys Thr  
 50 55 60  
 Leu Val Ser Thr Cys Val Ile Leu Ser Gly Met Thr Asn Ile Ile Cys  
 65 70 75 80  
 Leu Leu Tyr Val Gly Trp Val Thr Asn Tyr Ile Ala Ser Val Tyr Val  
 85 90 95  
 Arg Gly Gln Glu Pro Ala Pro Asp Lys Lys Leu Glu Glu Asp Lys Gly  
 100 105 110  
 Asp Thr Leu Lys Ile Ile Glu Arg Leu Asp His Leu Glu Asn Val Ile  
 115 120 125  
 Lys Gln His Ile Gln Gly Tyr Arg Arg Asn Phe Ser Leu Leu Asn Val  
 130 135 140  
 Ser Asn  
 145

&lt;210&gt; 4093

&lt;211&gt; 1519

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4093

nngggccgcg gccggcagaa gggctgttag gagggaccac gcgccggggg cgcgatctct  
 60  
 ggcagggggc ggtgtgcagc ggaaccatgc acataggcgc ccacgccgac taccctccc  
 120  
 gaggaaaaga ggccggggcg cgctgggggg tgagagcatg agggaggccg gggggggctg  
 180  
 cttggagcgc tgctagggag cggtgccgcc gcacaccgc ctgggcgcgg cggagggcgg  
 240  
 ggagcgggca ggtcgcgcct cggcgcagcg accgccggga gctgttctga tttccgacgc  
 300  
 gcacctaggg gcccgagca gccccgcgc cggcgcgcgg ccgacatggg caacgcaggg  
 360  
 agcatggatt cgcagcagac cgatttcagg gcgcacaacg tgcctttgaa gctgccgatg  
 420  
 ccagagccag gtgaactgga ggagcgattt gccatcgtgc tgaacgctat gaacctacct  
 480  
 cctgacaaaag ccaggttact gcggcagtat gataatgaga aaaaatggga actgatttgt  
 540  
 gatcaggaac gattccaggt gaagaatcct cccatacat acattcaaaa gctcaaaggc  
 600  
 tatctggatc cagctgtaac caggaagaaa ttcagacggc gtgttcaaga atctacacaa  
 660  
 gtgctaagag aactggaaat ttctttaaga actaaccaca ttggatgggt cagagaattt  
 720

ctgaatgaag aaaacaaagg tcttgatggt ctagtggaat atctctcatt tgcacagtac  
 780  
 gcggtaactt ttgactttga aagtgtggag agtactgtgg agagctcggg ggacaaatca  
 840  
 aagccctgga gtagggtccat cgaggacctg cacagaggga gcaacctgcc ctcacctgtg  
 900  
 ggcaacagtg tctcccgtct tggaagacat tctgcactgc gatataatac attgccaagc  
 960  
 agaagaactc tgaaaaattc aagattagtg agtaagaaag atgatgtgca tgtctgtatc  
 1020  
 atgtgtttac gtgccatcat gaattatcag tatggtttca acatgggtcat gtctcatcca  
 1080  
 cacgctgtca atgagattgc actaagcctg aacaacaaga atcccagaac aaaagccctt  
 1140  
 gtcttagaac tgttggcagc cgtttgtctt gtcagaggcg ggcataaata cattttatca  
 1200  
 gcatttgata actttaaaaga ggtttgtgga gaaaaacagc gctttgagaa gttgatggaa  
 1260  
 catttcagga atgaagacaa taacatagat tttatggtgg cttctatgca gtttattaat  
 1320  
 attgtagtcc attcagtaga agatatgaat ttcagagttc acctgcagta tgaatttacc  
 1380  
 aaattaggcc tggacgaata cttggacaag ctgaaacaca ctgagagtga caagcttcaa  
 1440  
 gtccagatcc aggttaacct ggacaatggt tttgatgtag gagctctact ggaagatgct  
 1500  
 gaaactaaga atgctgcag  
 1519

<210> 4094

<211> 391

<212> PRT

<213> Homo sapiens

<400> 4094

Met	Gly	Asn	Ala	Gly	Ser	Met	Asp	Ser	Gln	Gln	Thr	Asp	Phe	Arg	Ala
1				5					10					15	
His	Asn	Val	Pro	Leu	Lys	Leu	Pro	Met	Pro	Glu	Pro	Gly	Glu	Leu	Glu
			20					25					30		
Glu	Arg	Phe	Ala	Ile	Val	Leu	Asn	Ala	Met	Asn	Leu	Pro	Pro	Asp	Lys
		35					40					45			
Ala	Arg	Leu	Leu	Arg	Gln	Tyr	Asp	Asn	Glu	Lys	Lys	Trp	Glu	Leu	Ile
		50				55					60				
Cys	Asp	Gln	Glu	Arg	Phe	Gln	Val	Lys	Asn	Pro	Pro	His	Thr	Tyr	Ile
65					70					75				80	
Gln	Lys	Leu	Lys	Gly	Tyr	Leu	Asp	Pro	Ala	Val	Thr	Arg	Lys	Lys	Phe
				85					90					95	
Arg	Arg	Arg	Val	Gln	Glu	Ser	Thr	Gln	Val	Leu	Arg	Glu	Leu	Glu	Ile
			100					105					110		
Ser	Leu	Arg	Thr	Asn	His	Ile	Gly	Trp	Val	Arg	Glu	Phe	Leu	Asn	Glu
			115				120					125			
Glu	Asn	Lys	Gly	Leu	Asp	Val	Leu	Val	Glu	Tyr	Leu	Ser	Phe	Ala	Gln
		130				135					140				
Tyr	Ala	Val	Thr	Phe	Asp	Phe	Glu	Ser	Val	Glu	Ser	Thr	Val	Glu	Ser



```

145          150          155          160
Ser Val Asp Lys Ser Lys Pro Trp Ser Arg Ser Ile Glu Asp Leu His
          165          170          175
Arg Gly Ser Asn Leu Pro Ser Pro Val Gly Asn Ser Val Ser Arg Ser
          180          185          190
Gly Arg His Ser Ala Leu Arg Tyr Asn Thr Leu Pro Ser Arg Arg Thr
          195          200          205
Leu Lys Asn Ser Arg Leu Val Ser Lys Lys Asp Asp Val His Val Cys
          210          215          220
Ile Met Cys Leu Arg Ala Ile Met Asn Tyr Gln Tyr Gly Phe Asn Met
225          230          235          240
Val Met Ser His Pro His Ala Val Asn Glu Ile Ala Leu Ser Leu Asn
          245          250          255
Asn Lys Asn Pro Arg Thr Lys Ala Leu Val Leu Glu Leu Leu Ala Ala
          260          265          270
Val Cys Leu Val Arg Gly Gly His Glu Ile Ile Leu Ser Ala Phe Asp
          275          280          285
Asn Phe Lys Glu Val Cys Gly Glu Lys Gln Arg Phe Glu Lys Leu Met
          290          295          300
Glu His Phe Arg Asn Glu Asp Asn Asn Ile Asp Phe Met Val Ala Ser
305          310          315          320
Met Gln Phe Ile Asn Ile Val Val His Ser Val Glu Asp Met Asn Phe
          325          330          335
Arg Val His Leu Gln Tyr Glu Phe Thr Lys Leu Gly Leu Asp Glu Tyr
          340          345          350
Leu Asp Lys Leu Lys His Thr Glu Ser Asp Lys Leu Gln Val Gln Ile
          355          360          365
Gln Ala Tyr Leu Asp Asn Val Phe Asp Val Gly Ala Leu Leu Glu Asp
          370          375          380
Ala Glu Thr Lys Asn Ala Ala
385          390

```

&lt;210&gt; 4095

&lt;211&gt; 253

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4095

```

ccatggggggg tggggagcag gcctcagcag ggcgggttcc caaaagacag ccagagagagc
60
agggtcagat agtgggggggt ggggttcagct ccactgtcca ggtgaggaaa ctgaggctga
120
agagagatca agtagcatcc ccagcgaaat ctgaggcctc tggaggcgcc tgtgcacgtg
180
tgtctggaag tgtgtgtcca ggcagcatat ctgcatgtgt gtgcctgtcc agacagcata
240
tctgtgcacg cgt
253

```

&lt;210&gt; 4096

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4096

Met Gly Gly Gly Glu Gln Ala Ser Ala Gly Arg Val Pro Lys Arg Gln  
 1 5 10 15  
 Pro Arg Glu Gln Gly Gln Ile Val Gly Gly Gly Phe Ser Ser Thr Val  
 20 25 30  
 Gln Val Arg Lys Leu Arg Leu Lys Arg Asp Gln Val Ala Ser Pro Ala  
 35 40 45  
 Lys Ser Glu Ala Ser Gly Gly Ala Cys Ala Arg Val Ser Gly Ser Val  
 50 55 60  
 Cys Pro Gly Ser Ile Ser Ala Cys Val Cys Leu Ser Arg Gln His Ile  
 65 70 75 80  
 Cys Ala Arg

&lt;210&gt; 4097

&lt;211&gt; 1385

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4097

tccggagccc ggagcccgga gcccgcgcgc gggcagcccc ccggggagga gcctcgtgct  
 60  
 ctgggaacgc tgccgcgcac tggcacggca ggggcgcgag ccaggctgca cgattcactg  
 120  
 cgtgctgtcc tcaattgttc tacaatgagt gccaaatctg ctatcagcaa ggaaattttt  
 180  
 gcacctcttg atgaaaggat gctgggagct gtccaagtca agaggaggac aaagaaaaag  
 240  
 attcctttct tggcaactgg aggtcaaggc gaatatttaa cttatatctg cctgtcagtg  
 300  
 acaaacaaga aaccacaca ggcgccatc acaaaggcca aacagtttga aggtccaca  
 360  
 tcatttggtc ggagatcaca gtggatgctc gacagcttc gccagggtta tggatcagat  
 420  
 cctaattggg attcggcaga gtttgatttg ttgtttgaaa atgcttttga ccagtgggta  
 480  
 gccagcacag cgtcagaaaa atgcaccttc ttccagatcc tccaccatac ctgccagagg  
 540  
 tacctcacgg acaggaagcc agagtttatt aactgccaat ccaaattat gggaggaaac  
 600  
 agcatcctcc attcagctgc tgacagcgtg accagcgcag tgcagaaggc aagccaggcc  
 660  
 ttgaatgagc gtggagagcg attaggccga gcagaggaga agacagaaga cctgaagaac  
 720  
 agcgcgccag agtttgaga aactgcgcac aagcttgcca tgaagcaca atgttgagaa  
 780  
 actgcctatc ctggtgactc ttcttaagag aaactgaaga gtttggtcag cagtttttac  
 840  
 aagaattcgg gacctccgct tgcttctttt ttccaatat ttggacactt agagtgggtt  
 900  
 ttgttttttc ttttcagatg ttaatgtgaa agaaaggggtg ttgcattttt acatttccct  
 960  
 aatgatcttg ctaataaatg ctacaatagc atcagcttca ttttgggttt ttgcctctc  
 1020

ccactgtgtg tatgtgtgta tatgtatggt ttgaatatgt tttctttatt aaaaaatatt  
 1080  
 tttttagtatt tgaatatgaa atttggacca aatgataaac tgcgctgagt ctaaactggc  
 1140  
 aacatgtatt tttttctctg atattaagca ggaaggcatt ttaatgtggg gacatcagat  
 1200  
 gttatttttc ctagatgaaa ataaaagtca agcagtgatt agtttcactc actgtcctag  
 1260  
 ctacacttaa tttgaagatt aaaattctac attgtggaaa acaattgaat ttattgggaa  
 1320  
 aaacagcagt cttagatttt gctccttgca tagtaatctt ttgcatgaac catcaccagc  
 1380  
 gttca  
 1385

<210> 4098

<211> 258

<212> PRT

<213> Homo sapiens

<400> 4098

Ser	Gly	Ala	Arg	Ser	Pro	Glu	Pro	Arg	Ala	Gly	Gln	Pro	Pro	Gly	Glu
1				5					10					15	
Glu	Pro	Arg	Ala	Leu	Gly	Arg	Val	Pro	Arg	Thr	Gly	Thr	Ala	Gly	Ala
			20					25					30		
Arg	Ala	Arg	Leu	His	Asp	Ser	Leu	Arg	Ala	Val	Leu	Thr	Cys	Ser	Thr
			35				40					45			
Met	Ser	Ala	Lys	Ser	Ala	Ile	Ser	Lys	Glu	Ile	Phe	Ala	Pro	Leu	Asp
	50					55					60				
Glu	Arg	Met	Leu	Gly	Ala	Val	Gln	Val	Lys	Arg	Arg	Thr	Lys	Lys	Lys
65					70					75					80
Ile	Pro	Phe	Leu	Ala	Thr	Gly	Gly	Gln	Gly	Glu	Tyr	Leu	Thr	Tyr	Ile
			85					90						95	
Cys	Leu	Ser	Val	Thr	Asn	Lys	Lys	Pro	Thr	Gln	Ala	Ser	Ile	Thr	Lys
			100					105					110		
Val	Lys	Gln	Phe	Glu	Gly	Ser	Thr	Ser	Phe	Val	Arg	Arg	Ser	Gln	Trp
	115					120						125			
Met	Leu	Glu	Gln	Leu	Arg	Gln	Val	Asn	Gly	Ile	Asp	Pro	Asn	Gly	Asp
	130					135					140				
Ser	Ala	Glu	Phe	Asp	Leu	Leu	Phe	Glu	Asn	Ala	Phe	Asp	Gln	Trp	Val
145					150					155					160
Ala	Ser	Thr	Ala	Ser	Glu	Lys	Cys	Thr	Phe	Phe	Gln	Ile	Leu	His	His
			165						170					175	
Thr	Cys	Gln	Arg	Tyr	Leu	Thr	Asp	Arg	Lys	Pro	Glu	Phe	Ile	Asn	Cys
			180					185					190		
Gln	Ser	Lys	Ile	Met	Gly	Gly	Asn	Ser	Ile	Leu	His	Ser	Ala	Ala	Asp
	195						200					205			
Ser	Val	Thr	Ser	Ala	Val	Gln	Lys	Ala	Ser	Gln	Ala	Leu	Asn	Glu	Arg
	210					215					220				
Gly	Glu	Arg	Leu	Gly	Arg	Ala	Glu	Glu	Lys	Thr	Glu	Asp	Leu	Lys	Asn
225					230					235					240
Ser	Ala	Gln	Gln	Phe	Ala	Glu	Thr	Ala	His	Lys	Leu	Ala	Met	Lys	His
			245						250					255	

Lys Cys

<210> 4099  
 <211> 511  
 <212> DNA  
 <213> Homo sapiens

<400> 4099  
 accggtggat atagaagtac aggaatctcc aaggcaaatg tcaaaaaaaaa aaataagcaa  
 60  
 attagggaaa ggttttctgt gaaattacct tctgattgta gccacatgaa acacatcaac  
 120  
 ttaaacaata aaaaattgta taatggaatt ggatcagggg gttcccaaaa ccccttcac  
 180  
 tgaggtttgg caattcactg agaaggactc acaggactca gcagatagtc atacttgggg  
 240  
 ctttgattta ttacatttaa tacagcaaaa agacacaaaag caacatttga gaaaggaaaa  
 300  
 ggtgcatgtg tcaaagtctg gaggaagcca ggcacaagct acaggagtca tctcctgtgt  
 360  
 agctagcagg atatgcttaa ttccccagc ctcaaatttt gacgacacat gtgcaatgtt  
 420  
 gtctacctta ccagagtttc attagaggtc cagcacccat gttttcgatg gaggctagtc  
 480  
 acataggcaa cctctcctct ccctcacgcg t  
 511

<210> 4100  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

<400> 4100  
 Met Glu Leu Asp Gln Gly Val Pro Lys Thr Pro Phe Thr Glu Val Trp  
 1 5 10 15  
 Gln Phe Thr Glu Lys Asp Ser Gln Asp Ser Ala Asp Ser His Thr Trp  
 20 25 30  
 Gly Phe Asp Leu Leu His Leu Ile Gln Gln Lys Asp Thr Lys Gln His  
 35 40 45  
 Leu Arg Lys Glu Lys Val His Val Ser Lys Ser Gly Gly Ser Gln Ala  
 50 55 60  
 Gln Ala Thr Gly Val Ile Ser Cys Val Ala Ser Arg Ile Cys Leu Ile  
 65 70 75 80  
 Pro Pro Ala Ser Asn Phe Asp Asp Thr Cys Ala Met Leu Ser Thr Leu  
 85 90 95  
 Pro Glu Phe His  
 100

<210> 4101  
 <211> 536  
 <212> DNA  
 <213> Homo sapiens

<400> 4101

tttttttttt tttttttttt tttttttttt tttttgagga accccagaaa tgtgtttatt  
 60  
 aagttggact cgtattgctg tgtgggggtcc cagtgcacgc gtgtgcaccc gctacaagat  
 120  
 ccaggaaaga tggcacacgg cagacgacga caggaaggac acctgctccc cacccttccc  
 180  
 gggaccccg ccatgtgcaaa attcgagctg gggctctgcag ctgcttggag agaccaggg  
 240  
 cctcttgetc cacagcctgc aaggtctgag caggcaacgg ccctggggcg gtgaggcccc  
 300  
 cgcctggta cccccgcgc ccccatgca ggcagtggag gggaggacac gcaggaggac  
 360  
 cagacgctaa aggtgtaaac gggcagccgt ggcactcctc acctctcaat aaataagata  
 420  
 aataactaaa taaataaaca actaaataaa gacatgaagg aatggatgca gagacgtgaa  
 480  
 cggatggcg aggacgtccc tgggtggggc cacgggtccc ttaaggcatg tgggag  
 536

<210> 4102

<211> 106

<212> PRT

<213> Homo sapiens

<400> 4102

Met	Cys	Leu	Leu	Ser	Trp	Thr	Arg	Ile	Ala	Val	Trp	Gly	Pro	Ser	Ala
1				5					10					15	
Arg	Val	Cys	Thr	Arg	Tyr	Lys	Ile	Gln	Glu	Arg	Trp	His	Thr	Ala	Asp
			20					25					30		
Asp	Asp	Arg	Lys	Asp	Thr	Cys	Ser	Pro	Pro	Phe	Pro	Gly	Pro	Arg	His
			35				40					45			
Val	Gln	Asn	Ser	Ser	Trp	Gly	Leu	Gln	Leu	Leu	Gly	Glu	Thr	Gln	Gly
			50				55					60			
Leu	Leu	Leu	His	Ser	Leu	Gln	Gly	Leu	Ser	Arg	Gln	Arg	Pro	Trp	Gly
					70					75				80	
Gly	Glu	Ala	Pro	Ala	Trp	Ser	Leu	Pro	Ala	Pro	Pro	Met	Gln	Ala	Val
				85					90					95	
Glu	Gly	Arg	Thr	Arg	Arg	Arg	Thr	Arg	Arg						
					100				105						

<210> 4103

<211> 3040

<212> DNA

<213> Homo sapiens

<400> 4103

ncggccgcgt tccccacaga ggacagcagg acttccaagg agagcatgtc ggaggctgat  
 60  
 cgcgcccaga agatggacgg ggagtccgag gaggagcagg agtccgtgga caccggggag  
 120  
 gaggaggaag gcggtgacga gtctgacctg agttcggaat ccagcattaa gaagaaatct  
 180  
 caagaggaaa ggaaagaccg acagtccctg gataagccag ccaggaaaag gaggcggaga  
 240

agtagaaaga agcccagcgg tgccctcggt tctgagtcgt ataagtcata tgcaggaagc  
300  
gctgagcaga cggcaccagg agacagcaca gggatcatgg aagtttctct ggactccctg  
360  
gatctccgag tcaaaggaat tctgtcttca caagcagaag ggttgccaa cgtccagat  
420  
gtgctggaga cagacggcct ccaggaagtg cctctctgca gctgccggat ggaaacaccg  
480  
aagagtcgag agatcaccac actggccaac aaccagtgc tggctacaga gagcgtggac  
540  
catgaattgg gccggtgcac aaacagcgtg gtcaagtatg agctgatgag cccctccaac  
600  
aaggccccgc tcctctgtgt gtgtgaagac caccggggcc gcatggtgaa gcaccagtgc  
660  
tgtctgggt gtggctactt ctgcacagcg ggtaatttta tggagtgtca gcccgagagc  
720  
agcatctctc accgtttcca caaagactgt gcctctcgag tcaataacgc cagctattgt  
780  
ccccactgtg gggaggagag ctccaaggcc aaagaggaga cgatagctaa agcagacacc  
840  
acctcgaccg tgacaccagt ccccgggcag gagaagggtc cgccnctgg aggcagggcc  
900cgggcagtg tnnccgggc caccactctc ggaggacgac aagctgcagg 960  
gtgcagctc ccacgntgcc cgagggttt gatccaacgg gacctgctgg gcttgggagg  
1020  
ccaactcccg gcctttcca gggaccaggg aaggaaacct tggagagcgc tctcatcgcc  
1080  
ctcgactcgg aaaaacccaa gaagcttcgc ttccacccaa agcagctgta cttctccgc  
1140  
aggcaagggg agcttcagaa ggtgtcctc atgctggtgg acggaattga ccccaacttc  
1200  
aaaatggagc accagaataa gcgctctcca ctgcacgcc cggcagaggc tggacacgtg  
1260  
gacatctgcc acatgctggt tcaggcgggc gctaattatg acacctgctc agaagaccag  
1320  
aggacccccg tgatggaagc agccgaaaac aaccatctgg aagcagtga gtacctcatc  
1380  
aaggctggg ccctggtgga tcccaaggac gcagagggt ctacgtgttt gcacctggct  
1440  
gccaagaaag gccactacga agtggtccag tacctgcttt caaatggagc gatggacgtc  
1500  
aactgtcagg atgacggagg ctggacaccc atgatctggg ccacagagta caagcacgtg  
1560  
gacctcgtga agctgctgct gtccaagggc tctgacatca acatccgaga caacgaggag  
1620  
aacatttgcc tgcactgggc ggcgttctcc ggctgctgg acatagccga gatcctgctg  
1680  
gtgccaagt gcgacctcca cgccgtgaac atccacggag actcgccact gcacattgcc  
1740  
gcccgggaga accgctacga ctgtgtctc ctctttcttt ctcgggattc agatgtcacc  
1800  
ttaaagaaca aggaaggaga gacgccccg cagtgtgca gcctcaactc tcagggtgtg  
1860  
agcgtctctc agatgagcaa ggctctgcag gactcgcccc ccgacaggcc cagccccgtg  
1920

gagaggatag tgagcagggga catcgctcga ggctacgagc gcatcccat cccctgtgtc  
 1980  
 aacgccgtgg acagcgagcc atgcccagc aactacaagt acgtctctca gaactgcgtg  
 2040  
 acgtcccca tgaacatcga cagaaatata actcatctgc agtactgctg gtgcatcgac  
 2100  
 gactgctcct ccagcaactg catgtgcggc cagctcagca tgcgctgctg gtacgacaag  
 2160  
 gatggccggc tcttgccaga gttcaacatg gcggagcctc ccttgatctt cgaatgcaac  
 2220  
 cacgcgtgct cctgctggag gaactgccga aatcgctcg tacagaatgg tctcagggca  
 2280  
 aggtgcagc tctaccggac gcgggacatg ggctggggcg tgcggtccct gcaggacatc  
 2340  
 ccaccaggca cctttgtctg cgagtatgtt ggggagctga tttcagactc agaagccgac  
 2400  
 gttcgagagg aagattctta cctctttgat ctgcacaata aggacgggga ggtttactgc  
 2460  
 atcgacgcgc ggttctacgg gaacgtcagc cggttcatca accaccactg cgagcccaac  
 2520  
 ctggtgcccg tgcgctggtt catggcccac caggacctgc ggttcccccg gatcgcttc  
 2580  
 ttcagcacc gcctgatcga ggccggcgag cagctcgggt ttgactatgg agagcgcttc  
 2640  
 tgggacatca aaggcaagct cttcagctgc cgctcgggt cccccaagtg ccggcactcg  
 2700  
 agcgcggccc tggcccagcg tcaggccagc gcggcccagg agggccagga ggacggcttg  
 2760  
 cccgacacca gctccgcggc tgccgcgacc ccctatgaga cgccgccggc cagcggggcg  
 2820  
 ctggggagcc agggaccgcc gcgtcgccga ttagaggacg agggaggagag attccgcacg  
 2880  
 caaccgaaag ggtccttcgg ggctgcgccg ccggcttcct ggaggggtcg gaggtgaggc  
 2940  
 tgcagcccct gcgggggggt gtggatgcct ccagccacc ttcccaaacc tgcggcctca  
 3000  
 ccgcgggccc agtgcccagg ctggagcgca cactttggtg  
 3040

&lt;210&gt; 4104

&lt;211&gt; 978

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4104

Xaa	Ala	Ala	Phe	Thr	Glu	Asp	Ser	Arg	Thr	Ser	Lys	Glu	Ser	Met
1			5					10				15		
Ser	Glu	Ala	Asp	Arg	Ala	Gln	Lys	Met	Asp	Gly	Glu	Ser	Glu	Glu
		20					25				30			
Gln	Glu	Ser	Val	Asp	Thr	Gly	Glu	Glu	Glu	Gly	Gly	Asp	Glu	Ser
		35				40					45			
Asp	Leu	Ser	Ser	Glu	Ser	Ser	Ile	Lys	Lys	Lys	Ser	Gln	Glu	Arg
	50					55				60				
Lys	Asp	Arg	Gln	Ser	Leu	Asp	Lys	Pro	Ala	Arg	Lys	Arg	Arg	Arg

65					70					75					80
Ser	Arg	Lys	Lys	Pro	Ser	Gly	Ala	Leu	Gly	Ser	Glu	Ser	Tyr	Lys	Ser
				85					90					95	
Ser	Ala	Gly	Ser	Ala	Glu	Gln	Thr	Ala	Pro	Gly	Asp	Ser	Thr	Gly	Tyr
			100					105					110		
Met	Glu	Val	Ser	Leu	Asp	Ser	Leu	Asp	Leu	Arg	Val	Lys	Gly	Ile	Leu
		115					120					125			
Ser	Ser	Gln	Ala	Glu	Gly	Leu	Ala	Asn	Gly	Pro	Asp	Val	Leu	Glu	Thr
	130					135					140				
Asp	Gly	Leu	Gln	Glu	Val	Pro	Leu	Cys	Ser	Cys	Arg	Met	Glu	Thr	Pro
145					150					155					160
Lys	Ser	Arg	Glu	Ile	Thr	Thr	Leu	Ala	Asn	Asn	Gln	Cys	Met	Ala	Thr
			165						170					175	
Glu	Ser	Val	Asp	His	Glu	Leu	Gly	Arg	Cys	Thr	Asn	Ser	Val	Val	Lys
		180						185					190		
Tyr	Glu	Leu	Met	Arg	Pro	Ser	Asn	Lys	Ala	Pro	Leu	Leu	Val	Leu	Cys
	195						200					205			
Glu	Asp	His	Arg	Gly	Arg	Met	Val	Lys	His	Gln	Cys	Cys	Pro	Gly	Cys
	210					215					220				
Gly	Tyr	Phe	Cys	Thr	Ala	Gly	Asn	Phe	Met	Glu	Cys	Gln	Pro	Glu	Ser
225					230					235					240
Ser	Ile	Ser	His	Arg	Phe	His	Lys	Asp	Cys	Ala	Ser	Arg	Val	Asn	Asn
			245						250					255	
Ala	Ser	Tyr	Cys	Pro	His	Cys	Gly	Glu	Glu	Ser	Ser	Lys	Ala	Lys	Glu
		260						265					270		
Val	Thr	Ile	Ala	Lys	Ala	Asp	Thr	Thr	Ser	Thr	Val	Thr	Pro	Val	Pro
	275						280					285			
Gly	Gln	Glu	Lys	Gly	Ser	Ala	Xaa	Gly	Gly	Arg	Ala	Asp	Thr	Thr	Thr
	290					295					300				
Gly	Ser	Ala	Xaa	Pro	Gly	His	His	Ser	Arg	Arg	Thr	Thr	Ser	Cys	Arg
305					310					315					320
Val	Gln	Pro	Pro	Thr	Xaa	Pro	Glu	Gly	Phe	Asp	Pro	Thr	Gly	Pro	Ala
			325						330					335	
Gly	Leu	Gly	Arg	Pro	Thr	Pro	Gly	Leu	Ser	Gln	Gly	Pro	Gly	Lys	Glu
		340					345						350		
Thr	Leu	Glu	Ser	Ala	Leu	Ile	Ala	Leu	Asp	Ser	Glu	Lys	Pro	Lys	Lys
	355						360					365			
Leu	Arg	Phe	His	Pro	Lys	Gln	Leu	Tyr	Phe	Ser	Ala	Arg	Gln	Gly	Glu
	370					375					380				
Leu	Gln	Lys	Val	Leu	Leu	Met	Leu	Val	Asp	Gly	Ile	Asp	Pro	Asn	Phe
385					390					395					400
Lys	Met	Glu	His	Gln	Asn	Lys	Arg	Ser	Pro	Leu	His	Ala	Ala	Ala	Glu
			405						410				415		
Ala	Gly	His	Val	Asp	Ile	Cys	His	Met	Leu	Val	Gln	Ala	Gly	Ala	Asn
		420						425					430		
Ile	Asp	Thr	Cys	Ser	Glu	Asp	Gln	Arg	Thr	Pro	Leu	Met	Glu	Ala	Ala
	435						440					445			
Glu	Asn	Asn	His	Leu	Glu	Ala	Val	Lys	Tyr	Leu	Ile	Lys	Ala	Gly	Ala
	450					455					460				
Leu	Val	Asp	Pro	Lys	Asp	Ala	Glu	Gly	Ser	Thr	Cys	Leu	His	Leu	Ala
465					470					475					480
Ala	Lys	Lys	Gly	His	Tyr	Glu	Val	Val	Gln	Tyr	Leu	Leu	Ser	Asn	Gly
			485						490					495	
Arg	Met	Asp	Val	Asn	Cys	Gln	Asp	Asp	Gly	Gly	Trp	Thr	Pro	Met	Ile



3289

930                      935                      940  
 Gly Pro Pro Arg Arg Arg Leu Glu Asp Glu Glu Glu Arg Phe Arg Thr  
 945                      950                      955                      960  
 Gln Pro Lys Gly Ser Phe Gly Ala Ala Pro Pro Ala Ser Trp Arg Gly  
                     965                      970                      975  
 Arg Arg

<210> 4105  
 <211> 775  
 <212> DNA  
 <213> Homo sapiens

<400> 4105  
 ncccgggctg ctcccatcaa ctccccagcc agaggtactc catctcccaa gaggatgccc  
 60  
 tcaggtcgtg ggggacggga ccgcttcacc gctgagtcct acacagttct gggggacacg  
 120  
 ctgatcgacg gcggggagca ttactgggag gtgcgctacg agccggacag caaggcggtc  
 180  
 ggcgtgggag tggcctaccg cagcctgggc cgcttcgagc aactgggcaa gacggccgcc  
 240  
 tcctgggtgcc tgcactcaac aattggctgc aggtcagctt cacggaagca cgccaacaag  
 300  
 gtcaaggtgc tggacgcccc cgtgccccgac tgcctgggtg tgcactgtga cttccaccaa  
 360  
 ggctctctgt ctttctacaa tgcccgcacc aaacaagtgc tgcacacttt caagaccagg  
 420  
 ttcacacagc cgctgctgcc tgccttcacg gtatgggtgt gcagcttcca ggtgacgaca  
 480  
 ggctgcagg tccccagtc tgtgcgctgc ctgcaaaagc gaggcagtc taccagcagc  
 540  
 tccaacacca gcctcaccta ggccccagc caccaccca gctgggggtg ttttggggga  
 600  
 gtcgccgcca agcccaggct gctggagcca ggcacctcc tctgtcactt gctgcttgga  
 660  
 gccttaactc cagatggggg ggtcaccaag agggagtggg caccctggcg ggccctctcc  
 720  
 ccacctcacc tcttaataaa ggtcagacac tggccaggca aaaaaaaaaa aaata  
 775

<210> 4106  
 <211> 186  
 <212> PRT  
 <213> Homo sapiens

<400> 4106  
 Xaa Arg Ala Ser Pro Ile Asn Ser Pro Ala Arg Gly Thr Pro Ser Pro  
     1                    5                    10                    15  
 Lys Arg Met Pro Ser Gly Arg Gly Gly Arg Asp Arg Phe Thr Ala Glu  
           20                    25                    30  
 Ser Tyr Thr Val Leu Gly Asp Thr Leu Ile Asp Gly Gly Glu His Tyr  
           35                    40                    45  
 Trp Glu Val Arg Tyr Glu Pro Asp Ser Lys Ala Phe Gly Val Gly Val

50	55	60
Ala Tyr Arg Ser Leu Gly Arg Phe Glu Gln Leu Gly Lys Thr Ala Ala		
65	70	75
Ser Trp Cys Leu His Ser Thr Ile Gly Cys Arg Ser Ala Ser Arg Lys		80
	85	90
His Ala Asn Lys Val Lys Val Leu Asp Ala Pro Val Pro Asp Cys Leu		95
	100	105
Gly Val His Cys Asp Phe His Gln Gly Leu Leu Ser Phe Tyr Asn Ala		110
	115	120
Arg Thr Lys Gln Val Leu His Thr Phe Lys Thr Arg Phe Thr Gln Pro		125
	130	135
Leu Leu Pro Ala Phe Thr Val Trp Cys Gly Ser Phe Gln Val Thr Thr		140
	145	150
Gly Leu Gln Val Pro Ser Ala Val Arg Cys Leu Gln Lys Arg Gly Ser		155
	160	165
Ala Thr Ser Ser Ser Asn Thr Ser Leu Thr		170
	175	
	180	185

&lt;210&gt; 4107

&lt;211&gt; 1442

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4107

```

ngcacgagggc ggtgccgggg gcgggggcgcg gcggctgtca gctgactgtg gcggcggcg
60
cctcgaggtg acaacttgtc tccgtcgag gctccggcg gggcgagga ggtcgcccg
120
cgcgctactg tcgggtcggc gagccacggg ggccgcccga gcaccatggc gaccaccgtc
180
agcactcagc gcgggcccgt gtacatcggg gagctccgc aggacttctt ccgcatcacg
240
ccacacagc agcagcggca ggtccagctg gacgcccagg cggccagcag ctgcagtacg
300
gaggcgaggg gcaccgtggg ccgactgaac atcacggtgg tacaggcaaa gttggccaag
360
aattacggca tgaccgcgat ggaccctac tgccgactgc gcctgggcta cgcggtgtac
420
gagacgcca cggcacacaa tggcgccaag aatccccgct ggaataaggc catccactgc
480
acggtgcccc caggcgtgga ctctttctat ctcgagatct tcgatgagag agccttctcc
540
atggacgacc gcattgcctg gaccacatc accatcccgg agtccttgag gcagggcaag
600
gtggaggaca agtggtacag cctgagcggg aggcaggggg acgacaagga gggcatgatc
660
aacctcgtca tgcctacgc gctgcttcca gctgccatgg tgatgccacc ccagcccgtg
720
gtcctgatgc caacagtgtg ccagcagggc gttggctatg tgcccatcac agggatgccc
780
gctgtctgtg gccccggcat ggtgcccgtg gccctgcccc cggccgcccgt gaacgcccag
840
ccccgtgtg gcgaggagga cctgaaagcc atccaggaca tgttcccca catggaccag
900

```

gaggtgatcc gctccgtgct ggaagcccag cgagggaaca aggatgccgc catcaactcc  
 960  
 ctgtgcaga tgggggagga gccatagagc ctctgctcg atgccgtttt gcccccgctc  
 1020  
 tttggacacg ccgaccggc gctccccaag gaatgtgtc ccaacaagat tccgtgaaa  
 1080  
 gagcaccgct gtcgccccct cccgtggact tctgtgccgc cccgtccaca cctgttcttg  
 1140  
 ggtgcatgtg ggttttcggt tcttgccggt ccaggacggg gcgggggctc cctcccatc  
 1200  
 tcgtgctggg aggtctcagc gcgtctcct gtccctggga cgtgcgtctc tccttctcat  
 1260  
 gccgttcttg aaaatgctct tgctgtagag agcagctgct tctgccaggg tgttgagggt  
 1320  
 ggtggagcgc ctccgattc cattcatggc attttgtgat gtgatgtaat tggaatagag  
 1380  
 ctgttgattt aaggcacaca caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 1440  
 aa  
 1442

<210> 4108

<211> 273

<212> PRT

<213> Homo sapiens

<400> 4108

Met	Ala	Thr	Thr	Val	Ser	Thr	Gln	Arg	Gly	Pro	Val	Tyr	Ile	Gly	Glu
1			5						10					15	
Leu	Pro	Gln	Asp	Phe	Leu	Arg	Ile	Thr	Pro	Thr	Gln	Gln	Gln	Arg	Gln
		20					25					30			
Val	Gln	Leu	Asp	Ala	Gln	Ala	Pro	Ser	Ser	Cys	Ser	Thr	Glu	Ala	Gln
	35					40					45				
Gly	Thr	Val	Gly	Arg	Leu	Asn	Ile	Thr	Val	Val	Gln	Ala	Lys	Leu	Ala
	50				55					60					
Lys	Asn	Tyr	Gly	Met	Thr	Arg	Met	Asp	Pro	Tyr	Cys	Arg	Leu	Arg	Leu
65				70				75					80		
Gly	Tyr	Ala	Val	Tyr	Glu	Thr	Pro	Thr	Ala	His	Asn	Gly	Ala	Lys	Asn
		85						90				95			
Pro	Arg	Trp	Asn	Lys	Val	Ile	His	Cys	Thr	Val	Pro	Pro	Gly	Val	Asp
		100					105					110			
Ser	Phe	Tyr	Leu	Glu	Ile	Phe	Asp	Glu	Arg	Ala	Phe	Ser	Met	Asp	Asp
	115					120					125				
Arg	Ile	Ala	Trp	Thr	His	Ile	Thr	Ile	Pro	Glu	Ser	Leu	Arg	Gln	Gly
	130				135					140					
Lys	Val	Glu	Asp	Lys	Trp	Tyr	Ser	Leu	Ser	Gly	Arg	Gln	Gly	Asp	Asp
145			150				155							160	
Lys	Glu	Gly	Met	Ile	Asn	Leu	Val	Met	Ser	Tyr	Ala	Leu	Leu	Pro	Ala
		165					170					175			
Ala	Met	Val	Met	Pro	Pro	Gln	Pro	Val	Val	Leu	Met	Pro	Thr	Val	Tyr
	180					185						190			
Gln	Gln	Gly	Val	Gly	Tyr	Val	Pro	Ile	Thr	Gly	Met	Pro	Ala	Val	Cys
	195					200					205				
Ser	Pro	Gly	Met	Val	Pro	Val	Ala	Leu	Pro	Pro	Ala	Ala	Val	Asn	Ala

210	215	220
Gln Pro Arg Cys Ser Glu Glu Asp Leu Lys Ala Ile Gln Asp Met Phe		
225	230	235
Pro Asn Met Asp Gln Glu Val Ile Arg Ser Val Leu Glu Ala Gln Arg		240
	245	250
Gly Asn Lys Asp Ala Ala Ile Asn Ser Leu Leu Gln Met Gly Glu Glu		255
	260	265
		270

Pro

&lt;210&gt; 4109

&lt;211&gt; 1637

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4109

gctgccctga agctacatgg gaagtgtgat gacgtcatgc ggctcctcat ggccgagctg  
60  
ggcttgagaga tccccgccta tagcaggtgg caggatccca ttttctcact ggcgactccc  
120  
ctgcgtgctg gtgaagaagg cagccacagt cggaagtcgc tgtgcagaag cagagaggag  
180  
ctgcggggga aggtccggga gctggccagc gccgtccgga acgccaataa cttggtcgtc  
240  
tacacaggcg cggaatcag cacggcagcg tctatccag actaccgggg ccctaattgga  
300  
gtgtggacac tgcttcagaa agggagaagc gttagtgtg cgcacctgag cgaggccgag  
360  
ccaaccctca cccacatgag catcaccctg ctgcatgagc agaagctggt gcagcatgtg  
420  
gtgtctcaga actgtgacgg gctccacctg aggagtgggc tgccgcgcac ggccatctcc  
480  
gagctccacg ggaacatgta cattgaagtc tgtacctcct gcgttcccaa caggagtagc  
540  
gtgcgggtgt tcgatgtgac ggagcgcact gccctccaca gacaccagac aggccggacc  
600  
tgccacaagt gtgggaccca gctgcgggac accattgtgc actttgggga gagggggacg  
660  
ttggggcagc ctctgaactg ggaagcggcg accgaggctg ccagcagagc agacaccatc  
720  
ctgtgtctag ggtccagcct gaaggttcta aagaagtacc cacgcctctg gtgcatgacc  
780  
aagccccctg ccggcgcccg actttacatc gtgaacctgc agtggacccc gaaggatgac  
840  
tgggctgccc tgaagctaca tgggaagtgt gatgacgtca tgcggctcct catggccgag  
900  
ctgggcttgg agatccccgc ctatagcagg tggcaggatc ccattttctc actggcgact  
960  
cccctgcgtg ctggtgaaga aggcagccac agtcggaagt cgctgtgcag aagcagagag  
1020  
gaggccccgc ctggggaccg ggggtgcaccg cttagctcgg ccccatcct agggggctgg  
1080  
tttgccaggg gctgcacaaa acgcacaaaa aggaagaaag tgacgtaatc acgtgctcga  
1140

tgaagaacag ttggcacttt gcagatggcc agtgtcacgg tgaaggctgg gttgccccca  
1200  
cgggtctagg gagaacgaac tctttgggga tgacattttc accgtgacat ttttagccat  
1260  
ttgtccttga ggaagcccct tgcactgctg cggttgtacc ctgatacggc ctggccatcg  
1320  
aggacacctg cccatccggc ctctgtgtca agagggtggca gccgcacctt tctgtgagaa  
1380  
cggaactcgg gttatttcag ccccgccctg cagagtggaa gcgccagcg gcctttcctc  
1440  
gctcaccagg ccagtctcag ggctcaccg tatttctact actacttaat gaaaaagtgt  
1500  
gaactttata gaatcctctc tgtactggat gtgcggcaga ggggtggctc cgagcctcgg  
1560  
ctctatgcag acctttttat ttctattaaa cgtttctgca ctggcaaaaa aaaaaaaaaa  
1620  
aaaaaaaaaa aaaaaaa  
1637

<210> 4110

<211> 375

<212> PRT

<213> Homo sapiens

<400> 4110

Ala	Ala	Leu	Lys	Leu	His	Gly	Lys	Cys	Asp	Asp	Val	Met	Arg	Leu	Leu
1				5					10					15	
Met	Ala	Glu	Leu	Gly	Leu	Glu	Ile	Pro	Ala	Tyr	Ser	Arg	Trp	Gln	Asp
		20						25					30		
Pro	Ile	Phe	Ser	Leu	Ala	Thr	Pro	Leu	Arg	Ala	Gly	Glu	Glu	Gly	Ser
		35					40					45			
His	Ser	Arg	Lys	Ser	Leu	Cys	Arg	Ser	Arg	Glu	Glu	Leu	Arg	Gly	Lys
		50				55				60					
Val	Arg	Glu	Leu	Ala	Ser	Ala	Val	Arg	Asn	Ala	Lys	Tyr	Leu	Val	Val
65					70				75					80	
Tyr	Thr	Gly	Ala	Gly	Ile	Ser	Thr	Ala	Ala	Ser	Ile	Pro	Asp	Tyr	Arg
			85					90					95		
Gly	Pro	Asn	Gly	Val	Trp	Thr	Leu	Leu	Gln	Lys	Gly	Arg	Ser	Val	Ser
		100					105					110			
Ala	Ala	Asp	Leu	Ser	Glu	Ala	Glu	Pro	Thr	Leu	Thr	His	Met	Ser	Ile
		115				120						125			
Thr	Arg	Leu	His	Glu	Gln	Lys	Leu	Val	Gln	His	Val	Val	Ser	Gln	Asn
		130				135					140				
Cys	Asp	Gly	Leu	His	Leu	Arg	Ser	Gly	Leu	Pro	Arg	Thr	Ala	Ile	Ser
145					150				155					160	
Glu	Leu	His	Gly	Asn	Met	Tyr	Ile	Glu	Val	Cys	Thr	Ser	Cys	Val	Pro
			165					170					175		
Asn	Arg	Glu	Tyr	Val	Arg	Val	Phe	Asp	Val	Thr	Glu	Arg	Thr	Ala	Leu
		180					185					190			
His	Arg	His	Gln	Thr	Gly	Arg	Thr	Cys	His	Lys	Cys	Gly	Thr	Gln	Leu
		195				200						205			
Arg	Asp	Thr	Ile	Val	His	Phe	Gly	Glu	Arg	Gly	Thr	Leu	Gly	Gln	Pro
		210				215					220				
Leu	Asn	Trp	Glu	Ala	Ala	Thr	Glu	Ala	Ala	Ser	Arg	Ala	Asp	Thr	Ile

225                      230                      235                      240  
 Leu Cys Leu Gly Ser Leu Lys Val Leu Lys Lys Tyr Pro Arg Leu  
                          245                      250                      255  
 Trp Cys Met Thr Lys Pro Pro Ala Gly Gly Arg Leu Tyr Ile Val Asn  
                          260                      265                      270  
 Leu Gln Trp Thr Pro Lys Asp Asp Trp Ala Ala Leu Lys Leu His Gly  
                          275                      280                      285  
 Lys Cys Asp Asp Val Met Arg Leu Leu Met Ala Glu Leu Gly Leu Glu  
                          290                      295                      300  
 Ile Pro Ala Tyr Ser Arg Trp Gln Asp Pro Ile Phe Ser Leu Ala Thr  
 305                      310                      315                      320  
 Pro Leu Arg Ala Gly Glu Glu Gly Ser His Ser Arg Lys Ser Leu Cys  
                          325                      330                      335  
 Arg Ser Arg Glu Glu Ala Pro Pro Gly Asp Arg Gly Ala Pro Leu Ser  
                          340                      345                      350  
 Ser Ala Pro Ile Leu Gly Gly Trp Phe Gly Arg Gly Cys Thr Lys Arg  
                          355                      360                      365  
 Thr Lys Arg Lys Lys Val Thr  
                          370                      375

&lt;210&gt; 4111

&lt;211&gt; 2599

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4111

ncctttagtagt tctcaccagg cttgtggaac ttaagggcct cccccggag ctgctccatc  
 60  
 agagacaggg tctggtcagc agtctcgcca ttctccacca catccttttt agtttccggt  
 120  
 gtctctgcaa tggcggtctt agactccctg tcgctcttca ctagcctcgg cctgagcgag  
 180  
 cagaaggccc gcgagacgct caagaactcg gctctgagcg cgcagctgcg cgaggccgct  
 240  
 actcaggctc agcagaccct gggttccacc attgacaaag ctaccgggat cctgttatat  
 300  
 ggcttggcct cccgactcag ggatacccg cgtctctcct tccttgtaag ctacatagcc  
 360  
 agtaagaaga tccacactga gccccagcta agcgctgccc ttgagtatgt gcggagtcac  
 420  
 cccttgacc ccatcgacac tgtggacttc gagcgggaat gtggcgtggg tgtcattgtg  
 480  
 accccagagc agattgagga ggctgtggag gctgctatta acaggcaccg gccccagctc  
 540  
 ctggtggaac gttaccattt caacatgggg ctgctgatgg gagaggctcg ggctgtgctg  
 600  
 aagtgggcag atggcaaat gatcaagaat gaagtggaca tgcaggtcct ccaccttctg  
 660  
 ggccccaaagt tggaggctga tctggagaag aagttcaagg tggcaaaagc tcggctagaa  
 720  
 gaaacagacc ggaggacggc aaaggatgtg gtggagaatg gcgagactgc tgaccagacc  
 780  
 ctgtctctga tggagcagct cgggggggag gcccttaagt tccacaagcc tggtgagaac  
 840

tacaagaccc caggctatgt ggtcactcca cacaccatga atctactaaa gcagcacctg  
 900  
 gagattactg gtgggcaggt acgtaccggt ttcccgccag aaccaatgg aatcctgcat  
 960  
 attggacatg ccaaagccat caatttcaac tttggctatg ccaaggccaa caatggcatc  
 1020  
 tgttttctgc gttttgatga caccaaccct gagaaggagg aagcaaagtt cttcacggcc  
 1080  
 atctgtgaca tggtagcctg gctaggctac acaccttaca aagtcacata tgcgtctgac  
 1140  
 tattttgacc agctatatgc gtgggctgtg gagctcatcc gcaggggtct ggcttatgtg  
 1200  
 tgccaccagc gaggagagga gctcaaaggc cataatactc tgccttcacc ctggagagac  
 1260  
 cgtcccatgg aggagtcact gctgctcttt gaggcaatgc gcaagggcaa gttttcagag  
 1320  
 ggcgaggcca cactacggat gaagctggtg atggaggatg gcaagatgga ccctgtagcc  
 1380  
 tatcgagtca agtatacacc acaccaccgc acaggggaca aatggtgcat ctatcccacc  
 1440  
 tacgactaca cacactgect ctgtgactcc atcgagcaca tcaactactc actctgcacc  
 1500  
 aaggaaattcc aggcccgacg ctcttcttac ttctggcttt gcaatgcact ggacgtctat  
 1560  
 tgccctgtgc agtgggagta tggccgcctc aacctgcact atgctgttgt ctctaagagg  
 1620  
 aagatcctcc agcttgtagc aactggtgct gtgcgggact gggatgaccc acggctcttt  
 1680  
 acactcacgg ccctgcgacg gcggggcttc ccacctgagg ccatcaacaa cttctgtgcc  
 1740  
 cgggtgggag tgactgtggc acaaaccaca atggagccac atcttctaga agcctgtgtg  
 1800  
 cgtgatgtgc tgaatgacac agccccacga gccatggctg tgctggagtc actacgggtc  
 1860  
 atcatcacca actttctgc tgccaagtc ttggacatcc aggtgccc aa cttcccagct  
 1920  
 gatgagacca aaggcttcca tcaggttccc tttgcaccca ttgtcttcat tgagaggact  
 1980  
 gacttcaagg aggagccaga gccaggattt aagcgctgg cttggggcca gcctgtgggc  
 2040  
 ctgaggcata caggctacgt cattgagctg cagcatgttg tcaagggccc cagtggttgt  
 2100  
 gtagagagtc tggaggtgac ctgcagacgg gcagatgctg gagagaagcc aaaggccttt  
 2160  
 attcactggg tgtcacagcc tttgatgtgt gaggttcgcc tctatgagcg actattccag  
 2220  
 cacaagaacc ctgaagatcc tactgaggtg cctggtggat ttttaagtga cctgaacctg  
 2280  
 gcatactac acgtggtgga tgcagcatta gtggactgct ctgtggcctt ggcaaaaccc  
 2340  
 ttgcacaagt tccagtttga gcgtcttggga tatttctccg tggatccaga cagccatcag  
 2400  
 ggaaagcttg tctttaaccg aactgtcaca ctgaaggaag acccaggaaa ggtgtgagct  
 2460



ggaagcactg aacctacctc atcctcctgg aggggtgtggc taccctcgcc accccaaatt  
 2520  
 ccatgtcaat aaagaacagc taaattcaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2580  
 aaaaaaaaaag atctttaat  
 2599

<210> 4112

<211> 775

<212> PRT

<213> Homo sapiens

<400> 4112

Met	Ala	Ala	Leu	Asp	Ser	Leu	Ser	Leu	Phe	Thr	Ser	Leu	Gly	Leu	Ser
1				5					10					15	
Glu	Gln	Lys	Ala	Arg	Glu	Thr	Leu	Lys	Asn	Ser	Ala	Leu	Ser	Ala	Gln
			20					25					30		
Leu	Arg	Glu	Ala	Ala	Thr	Gln	Ala	Gln	Gln	Thr	Leu	Gly	Ser	Thr	Ile
		35					40					45			
Asp	Lys	Ala	Thr	Gly	Ile	Leu	Leu	Tyr	Gly	Leu	Ala	Ser	Arg	Leu	Arg
	50				55					60					
Asp	Thr	Arg	Arg	Leu	Ser	Phe	Leu	Val	Ser	Tyr	Ile	Ala	Ser	Lys	Lys
65					70					75				80	
Ile	His	Thr	Glu	Pro	Gln	Leu	Ser	Ala	Ala	Leu	Glu	Tyr	Val	Arg	Ser
				85					90					95	
His	Pro	Leu	Asp	Pro	Ile	Asp	Thr	Val	Asp	Phe	Glu	Arg	Glu	Cys	Gly
			100					105					110		
Val	Gly	Val	Ile	Val	Thr	Pro	Glu	Gln	Ile	Glu	Glu	Ala	Val	Glu	Ala
		115					120					125			
Ala	Ile	Asn	Arg	His	Arg	Pro	Gln	Leu	Leu	Val	Glu	Arg	Tyr	His	Phe
	130					135					140				
Asn	Met	Gly	Leu	Leu	Met	Gly	Glu	Ala	Arg	Ala	Val	Leu	Lys	Trp	Ala
145					150					155				160	
Asp	Gly	Lys	Met	Ile	Lys	Asn	Glu	Val	Asp	Met	Gln	Val	Leu	His	Leu
			165					170					175		
Leu	Gly	Pro	Lys	Leu	Glu	Ala	Asp	Leu	Glu	Lys	Lys	Phe	Lys	Val	Ala
		180					185					190			
Lys	Ala	Arg	Leu	Glu	Glu	Thr	Asp	Arg	Arg	Thr	Ala	Lys	Asp	Val	Val
		195					200					205			
Glu	Asn	Gly	Glu	Thr	Ala	Asp	Gln	Thr	Leu	Ser	Leu	Met	Glu	Gln	Leu
	210					215					220				
Arg	Gly	Glu	Ala	Leu	Lys	Phe	His	Lys	Pro	Gly	Glu	Asn	Tyr	Lys	Thr
225					230					235				240	
Pro	Gly	Tyr	Val	Val	Thr	Pro	His	Thr	Met	Asn	Leu	Leu	Lys	Gln	His
			245					250						255	
Leu	Glu	Ile	Thr	Gly	Gly	Gln	Val	Arg	Thr	Arg	Phe	Pro	Pro	Glu	Pro
		260					265					270			
Asn	Gly	Ile	Leu	His	Ile	Gly	His	Ala	Lys	Ala	Ile	Asn	Phe	Asn	Phe
		275				280						285			
Gly	Tyr	Ala	Lys	Ala	Asn	Asn	Gly	Ile	Cys	Phe	Leu	Arg	Phe	Asp	Asp
	290					295				300					
Thr	Asn	Pro	Glu	Lys	Glu	Glu	Ala	Lys	Phe	Phe	Thr	Ala	Ile	Cys	Asp
305					310					315				320	
Met	Val	Ala	Trp	Leu	Gly	Tyr	Thr	Pro	Tyr	Lys	Val	Thr	Tyr	Ala	Ser

3298

755  
 Lys Glu Asp Pro Gly Lys Val  
 770 775

760 765

<210> 4113  
 <211> 1894  
 <212> DNA  
 <213> Homo sapiens

<400> 4113  
 cgccctgtga gggacaagcg tttgccgtag gggttgaaaa gaattggggg gcagtagttc  
 60  
 gctccccaga agggaccccc cagaaaatcc ggcagctgat agatgagggg attgccccgg  
 120  
 taagagggag gcgtggacgc gaaggacacg tctgccacat cccagtcagt taatggatca  
 180  
 ccccaagcgg aacaaccttc attggaatct acaagcaaag aagccttctt tagcagagtg  
 240  
 gaaacatttt cttctttgaa atgggcgggt aagccctttg agctgtctcc actcgtctgt  
 300  
 gcaaaatatg gctgggtcac agtggaatgt gatatgctca agtgctctag ctgtcaagct  
 360  
 tttctctgtg ccagtttaca accagctttt gactttgaca gatataagca acgatgtgct  
 420  
 gagctgaaga aagccttggt tactgcccac gagaagttct gtttctggcc agacagccca  
 480  
 tccccagacc gatttgggat gttgcccctg gatgagcctg ctattcttgt tagtgaattc  
 540  
 ctagatcggt ttcaaagcct ttgtcacttg gacctccagc ttccttccct aaggccggag  
 600  
 gacttgaaaa ctatgtgctt gacagaagac aagatcagtc ttctcctaca cttgcttgaa  
 660  
 gatgaacttg atcaccgaac tgatgagaga aaaactacaa tcaaattagg ctacagacac  
 720  
 caagtccacg tctctgctg tattctctct gtgtgtgggt gggcgtgtag ttctctttg  
 780  
 gaatccatgc agctctccct gatagcatgt tcgcaatgta tgaggaaggt ggggctctgg  
 840  
 ggcttccagc agattgaatc gtccatgact gacctggatg catcctttgg cctgaccagc  
 900  
 tccccaatcc caggccttga ggggcgacca gagcgcttac ctctggtgcc tgaatctcct  
 960  
 cggaggatga tgacccggag ccaggatgcc actttctccc caggctcaga gcaggctgaa  
 1020  
 aagagccctg gtccattgt ctctcgaact cggagctggg actcttccag tctgttgac  
 1080  
 cgctctgagc cagaggtgct tagccccacc accagaactc gccagtgac ccgaagcatg  
 1140  
 ggaacaggag acaccctgg cctggaggta ccatctagcn cctctgcgga aagccaagcg  
 1200  
 agctcgtctt gctcctccag cagttcggac acatcttccc gaagcttctt tgatcccacc  
 1260  
 tctcagcata gagactggtg cccttgggtg aatatcacac ttggcaaaga aagcaggggag  
 1320

aatggtggaa ctgaaccaga tgccagcgcc ccagcagagc caggctggaa agcagtgctg  
 1380  
 accatcctct tggcgacaaa acagtctagc cagccagctg aaacggactc catgagtctc  
 1440  
 tctgagaaat caaggaaagt attccgaata ttctggcagt gggaatctct gtgctcatgc  
 1500  
 tgaagatact ccagcgccct cctggagata gctggaatga gagtgacttt ttgaaaaatt  
 1560  
 aaggctgagt tcctttcggc cagctgacac taagtttttc ctgttctggg ttaatcataa  
 1620  
 ggagccccct gccatagcaa aggcagtgag tgtcaactat ctgcatctgg ctgagagaga  
 1680  
 cccgtttcct ttcagggatg tggacagggt aagggcagca agcatggttc tgttaaagga  
 1740  
 gtgtgggggt aacagactag aaggaagact aaggacctga ccaccattt cagcatcttc  
 1800  
 aatgtggagc agtgttctga ggactcttct atcctaggac tatgacagtg tgtattaata  
 1860  
 aaatatttgc taagaaaaaa aaaaaaaaaa aaaa  
 1894

<210> 4114

<211> 389

<212> PRT

<213> Homo sapiens

<400> 4114

Met	Leu	Lys	Cys	Ser	Ser	Cys	Gln	Ala	Phe	Leu	Cys	Ala	Ser	Leu	Gln
1				5					10					15	
Pro	Ala	Phe	Asp	Phe	Asp	Arg	Tyr	Lys	Gln	Arg	Cys	Ala	Glu	Leu	Lys
			20					25					30		
Lys	Ala	Leu	Cys	Thr	Ala	His	Glu	Lys	Phe	Cys	Phe	Trp	Pro	Asp	Ser
		35					40					45			
Pro	Ser	Pro	Asp	Arg	Phe	Gly	Met	Leu	Pro	Leu	Asp	Glu	Pro	Ala	Ile
		50				55					60				
Leu	Val	Ser	Glu	Phe	Leu	Asp	Arg	Phe	Gln	Ser	Leu	Cys	His	Leu	Asp
65					70					75				80	
Leu	Gln	Leu	Pro	Ser	Leu	Arg	Pro	Glu	Asp	Leu	Lys	Thr	Met	Cys	Leu
				85					90					95	
Thr	Glu	Asp	Lys	Ile	Ser	Leu	Leu	Leu	His	Leu	Leu	Glu	Asp	Glu	Leu
			100						105					110	
Asp	His	Arg	Thr	Asp	Glu	Arg	Lys	Thr	Thr	Ile	Lys	Leu	Gly	Ser	Asp
		115					120					125			
Ile	Gln	Val	His	Val	Thr	Ala	Cys	Ile	Leu	Ser	Val	Cys	Gly	Trp	Ala
		130					135					140			
Cys	Ser	Ser	Ser	Leu	Glu	Ser	Met	Gln	Leu	Ser	Leu	Ile	Ala	Cys	Ser
145					150						155			160	
Gln	Cys	Met	Arg	Lys	Val	Gly	Leu	Trp	Gly	Phe	Gln	Gln	Ile	Glu	Ser
				165						170				175	
Ser	Met	Thr	Asp	Leu	Asp	Ala	Ser	Phe	Gly	Leu	Thr	Ser	Ser	Pro	Ile
			180						185					190	
Pro	Gly	Leu	Glu	Gly	Arg	Pro	Glu	Arg	Leu	Pro	Leu	Val	Pro	Glu	Ser
		195					200					205			
Pro	Arg	Arg	Met	Met	Thr	Arg	Ser	Gln	Asp	Ala	Thr	Phe	Ser	Pro	Gly

210	215	220
Ser Glu Gln Ala Glu Lys Ser Pro Gly Pro Ile Val Ser Arg Thr Arg		
225	230	235 240
Ser Trp Asp Ser Ser Pro Val Asp Arg Pro Glu Pro Glu Ala Ala		
	245	250 255
Ser Pro Thr Thr Arg Thr Arg Pro Val Thr Arg Ser Met Gly Thr Gly		
	260	265 270
Asp Thr Pro Gly Leu Glu Val Pro Ser Ser Xaa Ser Ala Glu Ser Gln		
	275	280 285
Ala Ser Ser Leu Cys Ser Ser Ser Ser Ser Asp Thr Ser Ser Arg Ser		
	290	295 300
Phe Phe Asp Pro Thr Ser Gln His Arg Asp Trp Cys Pro Trp Val Asn		
305	310	315 320
Ile Thr Leu Gly Lys Glu Ser Arg Glu Asn Gly Gly Thr Glu Pro Asp		
	325	330 335
Ala Ser Ala Pro Ala Glu Pro Gly Trp Lys Ala Val Leu Thr Ile Leu		
	340	345 350
Leu Ala His Lys Gln Ser Ser Gln Pro Ala Glu Thr Asp Ser Met Ser		
	355	360 365
Leu Ser Glu Lys Ser Arg Lys Val Phe Arg Ile Phe Arg Gln Trp Glu		
	370	375 380
Ser Leu Cys Ser Cys		
385		

&lt;210&gt; 4115

&lt;211&gt; 1056

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4115

```

ccaaatccag ttttcatatt taaagcgaat gagccccctc ctctcagtgg gaaagatgag
60
ctgaagcttt actccctcga tagtggtggg aaaagaaatc agacaaaaat ctaaggaagg
120
accaaattatt gtacagagtg tgccagtagg cttttgcaac tggactgaaa atacctgcct
180
tttctctcca caggggaaag tggaagttga agctgggaaa gaaggtatga agtttgaagc
240
gagcgcttc tcatactatg gcgtgatggc cctgacagcc tctccaggtg aaaataagtc
300
ccctcctcgc ccatgtggct tgaatcactc agactctctc agtcgaagcg accggattga
360
cgccgtcaca ccaacactgg ggagcagcaa taaccagctc aattcttcgc tcctccaagt
420
ctacatcccc gattactcgg tgcgagccct ttcggatctg cagtttggtta agatctcaag
480
acagcaatac caaaatgcct tgatggcatc ccggatggac aaaaccccc agtcttcaga
540
cagtgaatac actaaaatcg aattgactct tacggagctg catgacgggt tgccagacga
600
gacagccaac ctgctcaacg aacagaactg tgtgacgcac agtaaggcca accacagcct
660
gcacaacgaa ggcgccatct aggcgcgct ggctgcaccc gccagggccc gcacccgccc
720

```

agtcccgagg gcccgccct gtctgccat gacttcactg gtgtgagctt gtccgccatg  
 780  
 ctgtaccctg caacatcctg agaccaaaga ccttgtgccc ttcccaggag ccgcgaggga  
 840  
 ggacagttag ggaggaatgg aaacgagaga tgtgaagttg gcagccgggg catggcgctc  
 900  
 aagatttttg agatgaactg attccgcccc aatagaatca tgtttatttt ttcagctctc  
 960  
 ccttttatca ttattcacac tcctctgccc tcgatttgca tgaagttgaa aattgttgcg  
 1020  
 attttatttt tcaagagatc atgtttttaa agtgtc  
 1056

<210> 4116  
 <211> 151  
 <212> PRT  
 <213> Homo sapiens

<400> 4116  
 Met Lys Phe Glu Ala Ser Ala Phe Ser Tyr Tyr Gly Val Met Ala Leu  
 1 5 10 15  
 Thr Ala Ser Pro Gly Glu Asn Lys Ser Pro Pro Arg Pro Cys Gly Leu  
 20 25 30  
 Asn His Ser Asp Ser Leu Ser Arg Ser Asp Arg Ile Asp Ala Val Thr  
 35 40 45  
 Pro Thr Leu Gly Ser Ser Asn Asn Gln Leu Asn Ser Ser Leu Leu Gln  
 50 55 60  
 Val Tyr Ile Pro Asp Tyr Ser Val Arg Ala Leu Ser Asp Leu Gln Phe  
 65 70 75 80  
 Val Lys Ile Ser Arg Gln Gln Tyr Gln Asn Ala Leu Met Ala Ser Arg  
 85 90 95  
 Met Asp Lys Thr Pro Gln Ser Ser Asp Ser Glu Asn Thr Lys Ile Glu  
 100 105 110  
 Leu Thr Leu Thr Glu Leu His Asp Gly Leu Pro Asp Glu Thr Ala Asn  
 115 120 125  
 Leu Leu Asn Glu Gln Asn Cys Val Thr His Ser Lys Ala Asn His Ser  
 130 135 140  
 Leu His Asn Glu Gly Ala Ile  
 145 150

<210> 4117  
 <211> 973  
 <212> DNA  
 <213> Homo sapiens

<400> 4117  
 nnagaccgcy ttgtcgtctc tccgggggag tgagggtga aggggtggct cctgcagtc  
 60  
 ggctgccaga ggctccccag gcaccggtcc ctgcaggcat ttggcactag ggaaggttcc  
 120  
 tgggtctcct gggcaccact cagagctctg tgcctgtggg tccaacaagt ccagagctgt  
 180  
 tggcactggt gcttcccggc tctggggcag tccgggggct gcaagtggaa acccaggggc  
 240

cctgcctggc tggggactaa gcagtgtcca gagtgggggc agggagaaca gagggcttga  
 300  
 ggaggaggc agaggcctgt cagtgggtac cctcctccct cccatgcaca tctaggtccc  
 360  
 caggcacagc ctgctgtaca agcacacgac tggcctgggt gtgggcgttg gcctcagcca  
 420  
 cctggaggca tcttgagtg ggagaggtgt gttggttgcc caaggccagc cagacctgcg  
 480  
 tcaccgtcac cgggagaagc taccgcgcc cttcttcag ggatctccgc agtgaagcct  
 540  
 cctctaagga gtcctaggac tctcccttta gagttgggga caggggggtg tgtttgtgct  
 600  
 ggctgggtc caaatactcc aggggtgcag ctccatcccc ctgctgtcct ctgtcccag  
 660  
 gggctgggaa gacaccaacg gctgtgaaca aactcgtga tttcttcacc aagacggtga  
 720  
 ggcggaggca ctggctgcaa aagtccaccc cctctagacc tctgcaacca cagaatcccc  
 780  
 agcccaaagg cctttgctgg tttgagttga attcagtggt gactgaagga aaaacatc  
 840  
 tattcacacc tcagagtgc catccgagct cctggtgact ggaaaaaaga aatgggtcac  
 900  
 cctttggcct gcgaggactg ggcgggaggc cccagcccag gcgacacagg agcttccacc  
 960  
 tcccttcacg cgt  
 973

&lt;210&gt; 4118

&lt;211&gt; 128

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4118

Gly	Gly	Arg	Gln	Arg	Pro	Val	Ser	Gly	Tyr	Pro	Pro	Pro	Ser	His	Ala
1				5					10					15	
His	Leu	Gly	Pro	Gln	Ala	Gln	Pro	Ala	Val	Gln	Ala	His	Asp	Trp	Pro
			20					25					30		
Gly	Cys	Gly	Arg	Trp	Pro	Gln	Pro	Pro	Gly	Gly	Ile	Leu	Glu	Trp	Glu
		35				40						45			
Arg	Cys	Val	Gly	Cys	Pro	Arg	Pro	Ala	Arg	Pro	Ala	Ser	Pro	Ser	Pro
	50					55					60				
Gly	Glu	Ala	Thr	Pro	Pro	Pro	Ser	Ser	Gly	Ile	Ser	Ala	Val	Lys	Pro
65					70					75				80	
Pro	Leu	Arg	Ser	Pro	Arg	Thr	Leu	Pro	Leu	Glu	Leu	Gly	Thr	Gly	Gly
				85					90					95	
Cys	Val	Cys	Ala	Gly	Leu	Gly	Pro	Asn	Thr	Pro	Gly	Cys	Gln	Leu	His
			100					105					110		
Pro	Pro	Ala	Val	Leu	Cys	Pro	Gln	Gly	Leu	Gly	Arg	His	Gln	Arg	Leu
			115				120						125		

&lt;210&gt; 4119

&lt;211&gt; 649

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4119

nnagatctcc aacctctgac aagttgtcat ggcaaagtcc taagaaggat catggcaatt  
 60  
 aggggtggctc tccatgtccc atgacgaaac ccaaactg aatgttgtgc aatcataaaa  
 120  
 accaattttc tgaactacaa aaatgatcga accataaaaa tcaggaacac ctctggttcc  
 180  
 agtcagacta aagatcagag gatccctggt cgtccagcct tccaacatcc ctgaccttct  
 240  
 gaagtctaag atctctagct gggatgtgct tcttctcctt tcttcttact gtaacacctc  
 300  
 ttccctacaga gctctggcct ctctacatgg attgggaacc agatgttgtc cctgagcagc  
 360  
 ctcccaccgt gggctgtcac cctgctggca tgcacctcgt tgtccattgt cactgagttt  
 420  
 gtgagcaacc cagcaaccat caccatcttc ctgcccaccc tgtgcagcct ggtgagtaat  
 480  
 gcggagctcc cagacatcca gacaggctgt cccaggggcc tggagtggca ggctggctc  
 540  
 agggcagctt ccgtagctgt aggtctctct ctggttactg cccacagcct tcactaattg  
 600  
 gtgttcaatt cctactttga aaaatgaagt ttttcaaata gcaactagt  
 649

&lt;210&gt; 4120

&lt;211&gt; 100

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4120

His	Leu	Phe	Leu	Gln	Ser	Ser	Gly	Leu	Ser	Thr	Trp	Ile	Gly	Asn	Gln
1			5					10					15		
Met	Leu	Ser	Leu	Ser	Ser	Leu	Pro	Pro	Trp	Ala	Val	Thr	Leu	Leu	Ala
			20				25						30		
Cys	Ile	Leu	Val	Ser	Ile	Val	Thr	Glu	Phe	Val	Ser	Asn	Pro	Ala	Thr
			35				40						45		
Ile	Thr	Ile	Phe	Leu	Pro	Ile	Leu	Cys	Ser	Leu	Val	Ser	Asn	Ala	Glu
			50				55					60			
Leu	Pro	Asp	Ile	Gln	Thr	Gly	Cys	Pro	Arg	Gly	Leu	Glu	Trp	Gln	Ala
65				70					75					80	
Trp	Leu	Arg	Ala	Ala	Ser	Val	Ala	Val	Gly	Ser	Pro	Leu	Val	Thr	Ala
			85					90						95	
His	Ser	Leu	His												
			100												

&lt;210&gt; 4121

&lt;211&gt; 2490

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4121

cgggcccagg gctgcgcggg cccttgcggc cgggcagctt ttctggcctt cgggctaggg  
 60



ctgggcctca tcgaggaaaa acaggcggag agccggcggg cggctctcggc ctgtcaggag  
120  
atccaggcaa tttttaccca gaaaagcaag ccggggcctg acccggttga cagcagacgc  
180  
ttgcagggtt ttcggctgga ggagtatctg atagggcagt ccattggtaa gggctgcagt  
240  
gctgtgtgt atgaagccac catgcctaca ttgccccaga acctggaggt gacaaagagc  
300  
accgggttgc ttccaggag agggccaggt accagtgcac caggagaagg gcaggagcga  
360  
gctccggggg ccctgcctt ccccttgcc atcaagatga tgtggaacat ctggcagggt  
420  
tcctccagcg aagccatctt gaacacaatg agccaggagc tggccccagc gagccgagt  
480  
gccttggttg gggagtatgg agcagtcact tacagaaaat ccaagagagg tccaagcaa  
540  
ctagcccctc accccaacat catccgggtt ctccgcgctt tcacctcttc cgtgccgctg  
600  
ctgccagggg ccctggctga ctacctgat gtgctgccct cagcctcca ccctgaaggc  
660  
ctgggccatg gccggacgct gttcctcgtt atgaagaact atccctgtac cctgcgccag  
720  
tacctttgtg tgaacacacc cagccccgc ctccgcgcca tgatgctgct gcagctgctg  
780  
gaaggcgtgg accatctggt tcaacagggc atccgcgaca gagacctgaa atccgacaac  
840  
atccttgtgg agctggacc agacggctgc ccctggctgg tgatcgcaga ttttggtgc  
900  
tgcctggctg atgagagcat cggcctgcag ttgcccttca gcagctggtg cgtggatcgg  
960  
ggcggaaaac gctgtctgat ggccccagag gtgtccacgg cccgtcctgg cccagggca  
1020  
gtgattgact acagcaaggc tgatgcctgg gcagtgggag ccacgccta tgaatcttc  
1080  
gggcttgtca atcccttcta cggccagggc aaggcccacc ttgaaagccg cagctaccaa  
1140  
gaggctcagc tacctgcact gcccgagtca gtgcctccag acgtgagaca gttggtgagg  
1200  
gcactgctcc agcgagaggc cagcaagaga ccactgccc gagtagccgc aaatgtgctt  
1260  
catctaagcc tctggggtga acatattcta gccctgaaga atctgaagtt agacaagatg  
1320  
gttggtggc tcctccaaca atcgccgcc actttgttgg ccaacaggct cacagagaag  
1380  
tggtgtgtgg aaacaaaaat gaagatgtc tttctggcta acctggagtg tgaaacgtc  
1440  
tgccaggcag cctcctcct ctgctcatgg agggcagccc tgtgatgtcc ctgcatggag  
1500  
ctggtgaatt actaaaagaa cttggcatcc tctgtgtcgt gatggtctgt gaatggtgag  
1560  
ggtgggagtc aggagacaag acagcgaga gagggtggt tagccggaaa aggcctcggg  
1620  
cttgccaaat ggaagaactt gagtgagagt tcagtctgca gtcctgtgct cacagacatc  
1680

tgaaaagtga atggccaagc tggcttagta gatgaggctg gactgaggag gggtaggcct  
 1740  
 gcatccacag agaggatcca ggccaaggca ctggctgtca gtggcagagt ttggctgtga  
 1800  
 cctttgcccc taacacgagg aactcgtttg aagggggcag cgtagcatgt ctgatttgcc  
 1860  
 acctggatga aggagacat caacatgggt cagcacgttc agttacggga gtgggaaatt  
 1920  
 acatgaggcc tgggcctctg cgttcccaag ctgtgcgttc tggaccagct actgaattat  
 1980  
 taatctcact tagcgaaagt gacggatgag cagtaagtaa gtaagtgtgg ggatttaaac  
 2040  
 ttgaggggtg cctcctgac tagcctctct tacaggaatt gtgaaatatt aaatgcaaatt  
 2100  
 ttacaactgc agatgacgta tgtgccttga actgaatatt tggctttaag aatgattctt  
 2160  
 cttatactct gaaggtgaga atattttgtg ggcaggtatc aacattgggg aagagagaga  
 2220  
 tttcatgtct aactaactaa ctttatacat gatttttagg aagctattgc ctaaactcagc  
 2280  
 gtcaacatgc agtaaagggt gtcttcaact gagctgttct agttttctct taccagcac  
 2340  
 tgtcatctag attttccatt tcagtgttc ccaccctcg gtctactagc aacaacaact  
 2400  
 ttcttgtatc ctttgaggag acgttaggga gaaccatcat ttcacagtta aaagaaagac  
 2460  
 agtccagtcc taggcaaaat ttcatgaagc  
 2490

<210> 4122

<211> 494

<212> PRT

<213> Homo sapiens

<400> 4122

Arg	Ala	Arg	Gly	Cys	Ala	Gly	Pro	Cys	Gly	Arg	Ala	Val	Phe	Leu	Ala
1				5					10					15	
Phe	Gly	Leu	Gly	Leu	Gly	Leu	Ile	Glu	Glu	Lys	Gln	Ala	Glu	Ser	Arg
		20						25					30		
Arg	Ala	Val	Ser	Ala	Cys	Gln	Glu	Ile	Gln	Ala	Ile	Phe	Thr	Gln	Lys
		35					40					45			
Ser	Lys	Pro	Gly	Pro	Asp	Pro	Leu	Asp	Thr	Arg	Arg	Leu	Gln	Gly	Phe
	50					55				60					
Arg	Leu	Glu	Glu	Tyr	Leu	Ile	Gly	Gln	Ser	Ile	Gly	Lys	Gly	Cys	Ser
65				70				75						80	
Ala	Ala	Val	Tyr	Glu	Ala	Thr	Met	Pro	Thr	Leu	Pro	Gln	Asn	Leu	Glu
			85					90					95		
Val	Thr	Lys	Ser	Thr	Gly	Leu	Leu	Pro	Gly	Arg	Gly	Pro	Gly	Thr	Ser
		100						105				110			
Ala	Pro	Gly	Glu	Gly	Gln	Glu	Arg	Ala	Pro	Gly	Ala	Pro	Ala	Phe	Pro
		115					120					125			
Leu	Ala	Ile	Lys	Met	Met	Trp	Asn	Ile	Ser	Ala	Gly	Ser	Ser	Ser	Glu
	130					135					140				
Ala	Ile	Leu	Asn	Thr	Met	Ser	Gln	Glu	Leu	Val	Pro	Ala	Ser	Arg	Val

```

145          150          155          160
Ala Leu Ala Gly Glu Tyr Gly Ala Val Thr Tyr Arg Lys Ser Lys Arg
          165          170          175
Gly Pro Lys Gln Leu Ala Pro His Pro Asn Ile Ile Arg Val Leu Arg
          180          185          190
Ala Phe Thr Ser Ser Val Pro Leu Leu Pro Gly Ala Leu Val Asp Tyr
          195          200          205
Pro Asp Val Leu Pro Ser Arg Leu His Pro Glu Gly Leu Gly His Gly
          210          215          220
Arg Thr Leu Phe Leu Val Met Lys Asn Tyr Pro Cys Thr Leu Arg Gln
225          230          235          240
Tyr Leu Cys Val Asn Thr Pro Ser Pro Arg Leu Ala Ala Met Met Leu
          245          250          255
Leu Gln Leu Leu Gly Val Asp His Leu Val Gln Gln Gly Ile Ala
          260          265          270
His Arg Asp Leu Lys Ser Asp Asn Ile Leu Val Glu Leu Asp Pro Asp
          275          280          285
Gly Cys Pro Trp Leu Val Ile Ala Asp Phe Gly Cys Cys Leu Ala Asp
          290          295          300
Glu Ser Ile Gly Leu Gln Leu Pro Phe Ser Ser Trp Tyr Val Asp Arg
305          310          315          320
Gly Gly Asn Gly Cys Leu Met Ala Pro Glu Val Ser Thr Ala Arg Pro
          325          330          335
Gly Pro Arg Ala Val Ile Asp Tyr Ser Lys Ala Asp Ala Trp Ala Val
          340          345          350
Gly Ala Ile Ala Tyr Glu Ile Phe Gly Leu Val Asn Pro Phe Tyr Gly
          355          360          365
Gln Gly Lys Ala His Leu Glu Ser Arg Ser Tyr Gln Glu Ala Gln Leu
          370          375          380
Pro Ala Leu Pro Glu Ser Val Pro Pro Asp Val Arg Gln Leu Val Arg
385          390          395          400
Ala Leu Leu Gln Arg Glu Ala Ser Lys Arg Pro Ser Ala Arg Val Ala
          405          410          415
Ala Asn Val Leu His Leu Ser Leu Trp Gly Glu His Ile Leu Ala Leu
          420          425          430
Lys Asn Leu Lys Leu Asp Lys Met Val Gly Trp Leu Leu Gln Gln Ser
          435          440          445
Ala Ala Thr Leu Leu Ala Asn Arg Leu Thr Glu Lys Cys Cys Val Glu
          450          455          460
Thr Lys Met Lys Met Leu Phe Leu Ala Asn Leu Glu Cys Glu Thr Leu
465          470          475          480
Cys Gln Ala Ala Leu Leu Cys Ser Trp Arg Ala Ala Leu
          485          490

```

&lt;210&gt; 4123

&lt;211&gt; 1095

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4123

ctaagcactc caccttgccg aaatgcgcgg ccagtgac gggcgccag ccatagaagg

60

agtctcaga ggccaggtgg gcgtggggtg tctgctgcag cagcgagcag agcgtggcca

120

ggtccccgtc gcggcaggcg cgggtgcagcg ggaaacggag cgagagcagc tcctcgtctg  
 180  
 agaagcccg cttctacgcc gcgctccgct cggcagcctg tgggacgccg ccgcagcgtc  
 240  
 aatctcgttc ctttgtgctg cggcggcgcc ttctcgagtc ctccccgacg cgtcctctag  
 300  
 gccagcgagc cccgcgctct ccggtgacgg accatgtcgg cggcgggagc gggcgcgggc  
 360  
 gtagaggcgg gcttctccag cgaggagctg ctctcgtctc gtttcccgct gcaccgcgcc  
 420  
 tgccgcgacg gggacctggc cacgctctgc tcgctgctgc agcagacacc ccacgccac  
 480  
 ctggcctctg aggactcctt ctatggctgg acgcccgtgc actgggcccgc gcatttcggc  
 540  
 aagttggagt gcttagtgca gttggtgaga gcgggagcca cactcaacgt ctccaccaca  
 600  
 cggtagcgcg agacgccagc ccacattgca gcctttgggg gacatcctca gtgcctggtc  
 660  
 tggctgattc aagcaggagc caacattaac aaaccggatt gtgaggggta aactccatt  
 720  
 cacaaggcag ctgctctgga gagcctagaa tgcacagtg cccttggtgc gaatggggct  
 780  
 cagctcgatt cacagcacta acaaaatgga tgcgggtttc acccttaa atgtgagtga  
 840  
 agctatagag ctataataac caaaataacc aatatcagct tttttttttt accttggtat  
 900  
 gaataattca tgaaaattaa ttataacca cattattcta atcagaaatg tgaacattta  
 960  
 gacttcggag gaaattaaac ccacaaaact agtttaaccc tttgggttcc atttcattgc  
 1020  
 tttgactctg tatttatattg aaaatagatc ctagacagca aaaccataca ggctaattgca  
 1080  
 cgacgtgtgt ggtaa  
 1095

&lt;210&gt; 4124

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4124

Met	Ser	Ala	Ala	Gly	Ala	Gly	Ala	Gly	Val	Glu	Ala	Gly	Phe	Ser	Ser
1				5					10					15	
Glu	Glu	Leu	Leu	Ser	Leu	Arg	Phe	Pro	Leu	His	Arg	Ala	Cys	Arg	Asp
		20						25					30		
Gly	Asp	Leu	Ala	Thr	Leu	Cys	Ser	Leu	Leu	Gln	Gln	Thr	Pro	His	Ala
		35					40					45			
His	Leu	Ala	Ser	Glu	Asp	Ser	Phe	Tyr	Gly	Trp	Thr	Pro	Val	His	Trp
		50				55					60				
Ala	Ala	His	Phe	Gly	Lys	Leu	Glu	Cys	Leu	Val	Gln	Leu	Val	Arg	Ala
65				70					75					80	
Gly	Ala	Thr	Leu	Asn	Val	Ser	Thr	Thr	Arg	Tyr	Ala	Gln	Thr	Pro	Ala
			85					90					95		
His	Ile	Ala	Ala	Phe	Gly	Gly	His	Pro	Gln	Cys	Leu	Val	Trp	Leu	Ile

	100		105		110										
Gln	Ala	Gly	Ala	Asn	Ile	Asn	Lys	Pro	Asp	Cys	Glu	Gly	Glu	Thr	Pro
	115		120		125										
Ile	His	Lys	Ala	Ala	Arg	Ser	Gly	Ser	Leu	Glu	Cys	Ile	Ser	Ala	Leu
	130		135		140										
Val	Ala	Asn	Gly	Ala	His	Val	Asp	Ser	Gln	His					
145			150		155										

&lt;210&gt; 4125

&lt;211&gt; 4711

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4125

```

gcgggcggcgg gggcagcgcg gcgcgtgtct gtgcgtgctg gtcgctcggg accgggaccg
60
gggcgaggcg ccgcggggct gagcccagca gacattgcgt tggcctccga gcagggcgca
120
tcatgcagcg ttcgcgcacc ggagagaaaa ctgagaatga aattgctttg gcaagctaaa
180
atgagctcga ttcaggactg ggggtgaagag gtagaggaag gagctgttta ccatgtcacc
240
ctcaaaagag tccagattca acaggctgcc aataaaggag caagatggct aggggttgaa
300
ggggaccagc tgcctccagg acacacagtc agtcaatatg aaacctgtaa gatcaggacc
360
ataaaagctg gcaccttgga gaagcttggt gagaacctgc tgacagcttt tggggacaat
420
gactttacct atatcagcat ctttctttca acgtacagag gctttgcctc cactaaagaa
480
gtgctggaac tactgctgga caggtatgga aacctgacaa gcccaaactg tgaagaagat
540
ggaagccaaa gttcatcaga gtccaaaatg gtgatcagga atgcaatcgc ttccatacta
600
agggcctggc ttgaccagtg tgcagaagac ttccgagagc cccctcactt cccttgctta
660
cagaaactgc tggattatct cacacggatg atgccgggct ctgaccaga aagaagagca
720
caaaatcttc ttgagcagtt tcagaagcaa gaagtggaaa ctgacaatgg gcttcccaac
780
acgatctcct tcagcctgga agaggaagag gaactggagg gtggagagtc agcagaattc
840
acgtgcttct cagaagatct agtggcagag cagctgacct acatggatgc acaactcttc
900
aagaaagtag tgcctacca ctgcctgggc tgcatttggt ctggaagga taagaaggaa
960
aacaacatt tggctcctac gatccgtgcc accatctctc agtttaatac cctcaccaaa
1020
tgtgttgtca gcaccatcct ggggggcaaa gaactcaaaa ctcagcagag agccaaaatc
1080
attgagaagt ggatcaacat cgctcatgaa tgtagactcc tgaagaattt ttcctccttg
1140
agggccatcg ttccggcact gcagtctaatt tccatctatc ggttaaaaaa gacttgggct
1200

```

gccgtcccaa gggaccgaat gctgatgttt gaagaacttt cagatatctt ctcagaccat  
1260  
aataaccatt tgaccagccg agaactactg atgaaggaag gaacctcaaa atttgcaaac  
1320  
ctggacagca gtgtgaaaga aaaccagaag cgtaccaga ggcggctgca gctccagaag  
1380  
gacatgggtg tgatgcaggg aactgtgccc tacctgggca ccttcctgac tgacctgacc  
1440  
atgcttgaca ctgcccttca ggactacatc gaggggtggac tgataaactt tgagaaaagg  
1500  
agaagggaat ttgaagtgat tgcccagata aagctcttac agtctgcctg caacagctat  
1560  
tgcatgaccc cagacaaaaa gttcatccag tggttccaga ggcagcagct cctgacagag  
1620  
gaggagagct atgccctgtc atgtgagatt gaagcagctg ctggcgccag caccacctcg  
1680  
cccaagcctc ggaagagcat ggtgaagaga ctcagcctac tgtttctagg gtctgacatg  
1740  
atcaccagtc cactccccc caaagagcag cccaagtcca ctgccagcgg gagctctggt  
1800  
gaaagcatgg actctgtcag cgtgtcatcc tgcgagtcga accactcaga ggctgaggag  
1860  
ggctccatta ctcccatgga caccctgat gagcctcaaa aaaagctctc tgagtccctc  
1920  
tcattcctgtt cttctatcca ttccatggac acaaattcct cagggatgtc ttccttaac  
1980  
aaccctctct cctccctctc gtcttgcaac aacaaccca aaatccacaa gcgctctgtc  
2040  
tcggtgacgt ccattacctc gactgtgtgt cctcctgttt acaaccaaca gaatgaagac  
2100  
acctgcataa tccgcatcag tgtggaagac aataacggca acatgtacaa gagcatcatg  
2160  
ttgacgagcc aggataaaac ccccgctgtg atccagagag ccatgctgaa gcacaatctg  
2220  
gactcagacc ccgccgagga gtacgagctg gtgcaggta tctcggagga caaagaactt  
2280  
gtgattccag actcagcaaa tgtcttttat gccatgaaca gccaagtga ctttgacttc  
2340  
attttgcgca aaaagaactc catggaagaa caagtgaac tgcgtagccg gaccagcttg  
2400  
acgttgccca ggacagctaa acggggctgc tggagtaaca gacacagcaa aatcacctc  
2460  
tgaaggagg gaccagtggc cccttgtttg ccaaaggcag agtggggctg agaaacaggc  
2520  
tgcggtgatt gcaattacca tccggtgttc gaggatcatt ggtgaagtca gcagatattt  
2580  
attgagttcc tgtggtgtgc aaagcattat gataggcacc gtggggaaac tggaaatgaa  
2640  
tttgacatga aaaggatgaa cgattcactg attctctttg actcatttga gactaaaatg  
2700  
cagaattacc aacatttaaa acatatatat gcacatgtat ttggtatgca tgtgtatcta  
2760  
tataaaaata tataagaggg actttatggg atagtatgga ctatggaaaa acaaatttgc  
2820

acaatggcct gggaagttga ggtcactttt tacagggaaa tagaagaaac tgagaaccta  
2880  
gtctcgtata ttctgagtaa atggaatcag tcctgggaat agagagtgtc ctttgtgcc  
2940  
gtattacaag aagcccaaac tttattttta taaagggaga ggatgacttt ctcaatcaag  
3000  
tgccaccaga taaaaacaac tgcagaggct ggaactgccca caggctgtat gaaaggccac  
3060  
tttgaaagg gtttgatga gctgggtggc ttcaacctct gcctgcatct gccactttct  
3120  
gctaccctag ggaggccagg aggagcttcg gaggaccatc gccccactgg tctagccatc  
3180  
atgacacctc tggaggtgtc aagctcctga aacaagctca tttcagtttc tggcaacccc  
3240  
gtgtatttcc gttttcccc taaagaacat atcataatca ttgcacaaat aacctgttc  
3300  
tttggaatg aagccagaaa agaaagcgca aaagaatggt gactcatttg gactcttatc  
3360  
tgtcttgaa tgtcactgct tcattgcctt ctctgattgc cttttgcatg taaaactatg  
3420  
tgtctggagt cttttgccat ctggatctta gtacctctt attatgtgca atttatctct  
3480  
caggtgtgga aatttctact gcaattgact acgtttgatt attttgagct tgtgaaagat  
3540  
ttctgaacag tgattgtccc gttaatagcc cctcagaaga tgttcctgc tgataacagc  
3600  
atcctatttt acttactttt atagcattac tgtgcctagt cgtggggaaa gagatggggc  
3660  
tgtatagatt atctgaatca tttgtctaag aggtacattc ttccagatgg aatcaataac  
3720  
ttttttttt ccaggttccc gtgcttgcta tcacagtatc attgttaagt gacacttttg  
3780  
tcttcataa caccatcaca ctcttcctc caagtctgag ctgtgctggg gtttgaacta  
3840  
aaagccatat gtggaatatt gacatgtgta agaagcactt tcagaatgtt gtccttttta  
3900  
agaaatgatt ctcaaaatac cagtttttat tccaaaaatt tagagaacaa acccggaata  
3960  
tgaagtgcag attgtaacat ggagctatct tttttccta atcccataat acagtccta  
4020  
aaagtttgtt gggatttgct ttgcataaat agccatgtga attccacaag aagcaccagg  
4080  
gaaagtttag agatttgctg caatggaccg aagaacgggc caggaagtcc tccaatttcc  
4140  
tttggctctt ccaggagatt ggactacaca ttgtaaagac tgactgggtt tcaactagtc  
4200  
aaaaagcact ttcttctgtt ttcaatccct gttcgatttg tgcttctgtg cttgtaggag  
4260  
agatggccag ggtggcagcc ctcatgcagg ttgaagtata ttagcctca gcctgatatt  
4320  
cttgggtgca aggtaaaaaa aaaaaataa ataaaacat tggcctggtt gagggcgtga  
4380  
ccaccaagac atatatgttg tgcccggtt catcctgtgt atttatactg tatatgtaga  
4440

gtctagattt atatactgca atgtaaaata tatatatatt tacctttttt aaagacaatg  
 4500  
 gaaattccaa gtagctaaaa cttagcttca tttatttaat gccacttta atgtcttaaa  
 4560  
 tttgtttcct ggtggacagc cgggtaatgc ttttagctgc tcgcatgctt gtctttctgc  
 4620  
 atctccatca tctgtttacc ttttggttaa actaataaac tagtttgga cttggctggc  
 4680  
 atgtgctgcc agacccaaag ggaaaaaaaa a  
 4711

<210> 4126

<211> 820

<212> PRT

<213> Homo sapiens

<400> 4126

Ala	Ala	Ala	Gly	Ala	Ala	Arg	Arg	Val	Ser	Val	Arg	Cys	Gly	Arg	Ser
1				5					10					15	
Gly	Pro	Gly	Pro	Gly	Arg	Gly	Ala	Ala	Gly	Leu	Ser	Pro	Ala	Asp	Ile
			20					25					30		
Ala	Leu	Ala	Ser	Glu	Gln	Gly	Ala	Ser	Cys	Ser	Val	Arg	Ala	Pro	Glu
	35						40					45			
Arg	Lys	Leu	Arg	Met	Lys	Leu	Leu	Trp	Gln	Ala	Lys	Met	Ser	Ser	Ile
	50					55					60				
Gln	Asp	Trp	Gly	Glu	Glu	Val	Glu	Glu	Gly	Ala	Val	Tyr	His	Val	Thr
65					70					75				80	
Leu	Lys	Arg	Val	Gln	Ile	Gln	Gln	Ala	Ala	Asn	Lys	Gly	Ala	Arg	Trp
			85					90						95	
Leu	Gly	Val	Glu	Gly	Asp	Gln	Leu	Pro	Pro	Gly	His	Thr	Val	Ser	Gln
		100						105					110		
Tyr	Glu	Thr	Cys	Lys	Ile	Arg	Thr	Ile	Lys	Ala	Gly	Thr	Leu	Glu	Lys
	115						120					125			
Leu	Val	Glu	Asn	Leu	Leu	Thr	Ala	Phe	Gly	Asp	Asn	Asp	Phe	Thr	Tyr
	130					135						140			
Ile	Ser	Ile	Phe	Leu	Ser	Thr	Tyr	Arg	Gly	Phe	Ala	Ser	Thr	Lys	Glu
145					150					155				160	
Val	Leu	Glu	Leu	Leu	Leu	Asp	Arg	Tyr	Gly	Asn	Leu	Thr	Ser	Pro	Asn
			165						170					175	
Cys	Glu	Glu	Asp	Gly	Ser	Gln	Ser	Ser	Ser	Glu	Ser	Lys	Met	Val	Ile
		180						185					190		
Arg	Asn	Ala	Ile	Ala	Ser	Ile	Leu	Arg	Ala	Trp	Leu	Asp	Gln	Cys	Ala
	195						200					205			
Glu	Asp	Phe	Arg	Glu	Pro	Pro	His	Phe	Pro	Cys	Leu	Gln	Lys	Leu	Leu
	210					215					220				
Asp	Tyr	Leu	Thr	Arg	Met	Met	Pro	Gly	Ser	Asp	Pro	Glu	Arg	Arg	Ala
225					230					235				240	
Gln	Asn	Leu	Leu	Glu	Gln	Phe	Gln	Lys	Gln	Glu	Val	Glu	Thr	Asp	Asn
			245					250						255	
Gly	Leu	Pro	Asn	Thr	Ile	Ser	Phe	Ser	Leu	Glu	Glu	Glu	Glu	Glu	Leu
		260						265					270		
Glu	Gly	Gly	Glu	Ser	Ala	Glu	Phe	Thr	Cys	Phe	Ser	Glu	Asp	Leu	Val
	275						280						285		
Ala	Glu	Gln	Leu	Thr	Tyr	Met	Asp	Ala	Gln	Leu	Phe	Lys	Lys	Val	Val



3313'

```

<400> 4127
ccatgcttcc tgcctctcggc caccagcaag ctgtcgggcg cagtggagca gtggctgagt
60
gcagctgagc ggctgtatgg gccctacatg tggggcaggc acgacattgt cttcctgcc
120
ccctccttcc ccatcgaggc catggagaac cctgcctca cttcatcat ctcctccatc
180
ctggagagcg atgagttcct ggtcatcgat gtcattccag aggtggccca cagttgggtc
240
ggcaacgctg tcaccaacgc cagctgggaa gagatgtggc tgagcgaggg cctggccacc
300
tatgccagc gccgtatcac caccgagacc tacgggtgctg ccttcacctg cctggagact
360
gccttcgcgc tggacgcctt gcaccggcag atgaagcttc tgggagagga cagcccggtc
420
agcaaactgc aggtcaagct ggagccagga gtgaatcca gccacctgat gaacctgttc
480
acctacgaga agggctactg cttcgtgtac tacctgtccc agctctgcgg agaccacag
540
cgctttgatg actttctccg agcctatgtg gagaagtaca agttcaccag cgtgggtggc
600
caggacctgc tggactcctt cctgagcttc ttcccggagc tgaaggagca gagcgtggac
660
tgccggggcag ggctggaatt cgagcgtctg ctcaatgcc caggcccggc gctggctgag
720
ccggacctgt ctcagggatc cagcctgacc cggcccgtgg aggccctttt ccagctgtgg
780
accgcagaac ctctggacca ggcagctgcc tccgccagcg ccattgacat ctccaagtgg
840
aggaccttcc agacagcact cttcctggac cggctcctgg atgggtcccc gctgccgcag
900
gaggtggtga tgagcctgtc caagtgtac tcctccttgc tggactcgat gaacgctgag
960
atccgcatcc gctggctgca gattgtggtc cgcaacgact actatcctga cctccacagg
1020

```

gtgaggcgct tcttgagag ccagatgtca cgcattgtaca ccatcccgct gtacgaggac  
 1080  
 ctctgcaccg gtgcctcaa gtccttcgag ctggaggtct tctaccagac gcagggccg  
 1140  
 ctgcacccca acctgcgcag agccatccag cagatcctgt cccagggcct gggctccagc  
 1200  
 acagagcccg cctcagagcc cagcacggag ctgggcaagg ctgaagcaga cacagactcg  
 1260  
 gacgcacagg ccctgctgct tggggacgag gccccagca gtgccatctc tctcaggag  
 1320  
 gtcaatgtgt ctgcctagcc ctgttggcgg gctgaccctc gacctcccag acaccacaat  
 1380  
 tgtgccttct gtgggccagg cctgccatga ctgcgtctcg gctctggcca tgagctctgc  
 1440  
 ccaggccccc aagccctcc cctgggctct cccaggcagg gagaatgggg agagggacct  
 1500  
 ccttggtgtc ggcagagacc tgtggacctg gcctccccc tcccagctct cttgcactgc  
 1560  
 aggccctggg gccagcccg acacaccatg cctcctgtct caacactgac agctgtgcct  
 1620  
 agccccgat gccagcacct gccagggtgc gccccggggc aaggggccca gcagccctat  
 1680  
 ggtgaccgcc aactgtgcc ttaatgtctg ccggggggcc aggtgtgtct gtccctgcag  
 1740  
 cagcctcct tgcaggatc tgagccacc tccccgcaca gccctgcacc ccgcccctag  
 1800  
 ggttggcagc ctgagttggc ccctggcaga ggaacaagga cacagacatt ccctcagtgt  
 1860  
 ggggggcagg ggacacagg agaggatggt tgtccctggg gagggccctc tggccccagg  
 1920  
 caaccttagc cctcagaac agggagtccc aggaccagg gagagtgtgg ggacaggaca  
 1980  
 gcctgtctct ttagcttcc tggggtggga ggcacagggg caaagcaata cccagggaa  
 2040  
 agtgggaggt ggtgctggt ctctctccag gccaccatg ctgggagagg cggccagagc  
 2100  
 ctggggcctc cagcctggga ctgctgtgat ggggtatcac ggtgatggc ccattaaact  
 2160  
 tccactctgc aaacctgaaa aaaaaaaaaa  
 2189

&lt;210&gt; 4128

&lt;211&gt; 445

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4128

Pro	Cys	Phe	Leu	Pro	Ser	Ala	Thr	Ser	Lys	Leu	Ser	Gly	Ala	Val	Glu
1				5				10						15	
Gln	Trp	Leu	Ser	Ala	Ala	Glu	Arg	Leu	Tyr	Gly	Pro	Tyr	Met	Trp	Gly
		20						25				30			
Arg	Tyr	Asp	Ile	Val	Phe	Leu	Pro	Pro	Ser	Phe	Pro	Ile	Val	Ala	Met
		35					40					45			
Glu	Asn	Pro	Cys	Leu	Thr	Phe	Ile	Ile	Ser	Ser	Ile	Leu	Glu	Ser	Asp

50	55	60
Glu Phe Leu Val Ile Asp Val Ile His Glu Val Ala His Ser Trp Phe		
65	70	75
Gly Asn Ala Val Thr Asn Ala Thr Trp Glu Glu Met Trp Leu Ser Glu		80
	85	90
Gly Leu Ala Thr Tyr Ala Gln Arg Arg Ile Thr Thr Glu Thr Tyr Gly		95
	100	105
Ala Ala Phe Thr Cys Leu Glu Thr Ala Phe Arg Leu Asp Ala Leu His		110
	115	120
Arg Gln Met Lys Leu Leu Gly Glu Asp Ser Pro Val Ser Lys Leu Gln		125
	130	135
Val Lys Leu Glu Pro Gly Val Asn Pro Ser His Leu Met Asn Leu Phe		140
145	150	155
Thr Tyr Glu Lys Gly Tyr Cys Phe Val Tyr Tyr Leu Ser Gln Leu Cys		160
	165	170
Gly Asp Pro Gln Arg Phe Asp Asp Phe Leu Arg Ala Tyr Val Glu Lys		175
	180	185
Tyr Lys Phe Thr Ser Val Val Ala Gln Asp Leu Leu Asp Ser Phe Leu		190
	195	200
Ser Phe Phe Pro Glu Leu Lys Glu Gln Ser Val Asp Cys Arg Ala Gly		205
	210	215
Leu Glu Phe Glu Arg Trp Leu Asn Ala Thr Gly Pro Pro Leu Ala Glu		220
225	230	235
Pro Asp Leu Ser Gln Gly Ser Ser Leu Thr Arg Pro Val Glu Ala Leu		240
	245	250
Phe Gln Leu Trp Thr Ala Glu Pro Leu Asp Gln Ala Ala Ala Ser Ala		255
	260	265
Ser Ala Ile Asp Ile Ser Lys Trp Arg Thr Phe Gln Thr Ala Leu Phe		270
	275	280
Leu Asp Arg Leu Leu Asp Gly Ser Pro Leu Pro Gln Glu Val Val Met		285
	290	295
Ser Leu Ser Lys Cys Tyr Ser Ser Leu Leu Asp Ser Met Asn Ala Glu		300
305	310	315
Ile Arg Ile Arg Trp Leu Gln Ile Val Val Arg Asn Asp Tyr Tyr Pro		320
	325	330
Asp Leu His Arg Val Arg Arg Phe Leu Glu Ser Gln Met Ser Arg Met		335
	340	345
Tyr Thr Ile Pro Leu Tyr Glu Asp Leu Cys Thr Gly Ala Leu Lys Ser		350
	355	360
Phe Ala Leu Glu Val Phe Tyr Gln Thr Gln Gly Arg Leu His Pro Asn		365
	370	375
Leu Arg Arg Ala Ile Gln Gln Ile Leu Ser Gln Gly Leu Gly Ser Ser		380
385	390	395
Thr Glu Pro Ala Ser Glu Pro Ser Thr Glu Leu Gly Lys Ala Glu Ala		400
	405	410
Asp Thr Asp Ser Asp Ala Gln Ala Leu Leu Leu Gly Asp Glu Ala Pro		415
	420	425
Ser Ser Ala Ile Ser Leu Arg Asp Val Asn Val Ser Ala		430
	435	440
		445

&lt;210&gt; 4129

&lt;211&gt; 1749

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<400> 4129  
ctgggaccag ctctgtctct tgcaccccg cccctgcctg gacacaggct cactcgctgc  
60  
cttcttctgg gggaaaccag cttcttgcca gccacagctg ctgcctccgc cactggccac  
120  
cgccctgtc ctgggagtc cttggcccaa acacccacct gacttagtgg ctctctgca  
180  
ggaaaggggg ctgccccctg cgttctcca tccaatcatg agctgggtgcc catcaccact  
240  
gagaatgcac cagagaatgt agtggaccag ggagcaggag cctcccgagg tggaaacaca  
300  
cgaaaagcc tcgaggacaa cggctccacc agggtcaccc cgagtgtcca gccccacct  
360  
cagcccatca gaaacatgag tgtgagccgg accatggagg acagctgtga gctggacctg  
420  
gtgtacgtca cagagaggat catcgctgtc tccttcccca gcacagccaa tgaggagaac  
480  
ttccggagca acctccgtga ggtggcgag atgctcaagt ccaaactagg aggcaactac  
540  
ctgctgttca acctctctga gcggagacct gacatcacga agctccatgc caaggtagtgc  
600  
gaatttggct ggcccgacct ccacacccca gccctggaga agatctgcag catctgtaag  
660  
gccatggaca catggctcaa tgcagacct cacaatgtcg ttgttctaca caacaagga  
720  
aaccgaggca ggataggagt tgtcatcgcg gttacatgc actacagcaa catttctgcc  
780  
agtgcggacc aggtcttgga ccggtttgca atgaagcgg tctatgagga taagattgtg  
840  
cccattggcc agccatccca aagaaggtag gtgcattact tcagtggcct gctctccggc  
900  
tccatcaaaa tgaacaacaa gccctgttt ctgcaccacg tgatcatgca cggcatcccc  
960  
aactttgagt ctaaaggagg atgtcggcca tttctccgca tctaccaggc catgcaacct  
1020  
gtgtacacat ctggcatcta caacatccca ggagacagcc agactagcgt ctgcatcacc  
1080  
atcgagccag gactgtcttt gaaggagac atcttgctga agtgctacca caagaagttc  
1140  
cgaagcccag cccgagacgt catcttccgt gtgcagttcc acacctgtgc catccatgcc  
1200  
tggtgggttg tctttgggaa ggaggacctt gatgatgctt tcaaagatga tcgatttcca  
1260  
gagtatggca aagtggagtt tgtattttct tatgggcccag agaaaattca aggcattggg  
1320  
cacctggaga acgggcccag cgtgtctgtg gactataaca cctccgaccc cctcatccgc  
1380  
tggtactcct acgacaactt cagtgggcat cgagatgacg gcatggagga ggtgggtggg  
1440  
cacagcagg ggccactaga tgggagcctg tatgctaagg tgaagaagaa agactccctg  
1500  
cacggcagca ccggggctgt taatgccaca cgtcctacac tgcgggccac cccaaccac  
1560

gtggaacaca cgctttctgt gagcagcgac tcgggcaact ccacagcctc caccaagacc  
 1620  
 gacaagaccg acgagcctgt ccccggggcc tccagtgtccc atgctgtccc cactgtgacc  
 1680  
 atcctgggtt ggcaattcat cgtccaggat gtctgtctcc cgctcagatg ctaacgcccc  
 1740  
 accattgac  
 1749

<210> 4130

<211> 523

<212> PRT

<213> Homo sapiens

<400> 4130

Leu	Ser	Gly	Ser	Ser	Ala	Gly	Lys	Gly	Ala	Ala	Pro	Cys	Val	Pro	Pro
1				5					10					15	
Ser	Asn	His	Glu	Leu	Val	Pro	Ile	Thr	Thr	Glu	Asn	Ala	Pro	Glu	Asn
			20					25					30		
Val	Val	Asp	Gln	Gly	Ala	Gly	Ala	Ser	Arg	Gly	Gly	Asn	Thr	Arg	Lys
		35					40					45			
Ser	Leu	Glu	Asp	Asn	Gly	Ser	Thr	Arg	Val	Thr	Pro	Ser	Val	Gln	Pro
	50					55					60				
His	Leu	Gln	Pro	Ile	Arg	Asn	Met	Ser	Val	Ser	Arg	Thr	Met	Glu	Asp
65					70					75				80	
Ser	Cys	Glu	Leu	Asp	Leu	Val	Tyr	Val	Thr	Glu	Arg	Ile	Ile	Ala	Val
				85					90					95	
Ser	Phe	Pro	Ser	Thr	Ala	Asn	Glu	Glu	Asn	Phe	Arg	Ser	Asn	Leu	Arg
			100					105					110		
Glu	Val	Ala	Gln	Met	Leu	Lys	Ser	Lys	His	Gly	Gly	Asn	Tyr	Leu	Leu
		115				120						125			
Phe	Asn	Leu	Ser	Glu	Arg	Arg	Pro	Asp	Ile	Thr	Lys	Leu	His	Ala	Lys
	130					135					140				
Val	Leu	Glu	Phe	Gly	Trp	Pro	Asp	Leu	His	Thr	Pro	Ala	Leu	Glu	Lys
145					150					155				160	
Ile	Cys	Ser	Ile	Cys	Lys	Ala	Met	Asp	Thr	Trp	Leu	Asn	Ala	Asp	Pro
				165					170					175	
His	Asn	Val	Val	Val	Leu	His	Asn	Lys	Gly	Asn	Arg	Gly	Arg	Ile	Gly
		180						185					190		
Val	Val	Ile	Ala	Ala	Tyr	Met	His	Tyr	Ser	Asn	Ile	Ser	Ala	Ser	Ala
		195					200					205			
Asp	Gln	Ala	Leu	Asp	Arg	Phe	Ala	Met	Lys	Arg	Phe	Tyr	Glu	Asp	Lys
	210					215					220				
Ile	Val	Pro	Ile	Gly	Gln	Pro	Ser	Gln	Arg	Arg	Tyr	Val	His	Tyr	Phe
225					230					235				240	
Ser	Gly	Leu	Leu	Ser	Gly	Ser	Ile	Lys	Met	Asn	Asn	Lys	Pro	Leu	Phe
				245					250					255	
Leu	His	His	Val	Ile	Met	His	Gly	Ile	Pro	Asn	Phe	Glu	Ser	Lys	Gly
		260					265						270		
Gly	Cys	Arg	Pro	Phe	Leu	Arg	Ile	Tyr	Gln	Ala	Met	Gln	Pro	Val	Tyr
		275					280						285		
Thr	Ser	Gly	Ile	Tyr	Asn	Ile	Pro	Gly	Asp	Ser	Gln	Thr	Ser	Val	Cys
	290					295					300				
Ile	Thr	Ile	Glu	Pro	Gly	Leu	Leu	Leu	Lys	Gly	Asp	Ile	Leu	Leu	Lys

```

305          310          315          320
Cys Tyr His Lys Lys Phe Arg Ser Pro Ala Arg Asp Val Ile Phe Arg
          325          330          335
Val Gln Phe His Thr Cys Ala Ile His Ala Trp Gly Val Val Phe Gly
          340          345          350
Lys Glu Asp Leu Asp Asp Ala Phe Lys Asp Asp Arg Phe Pro Glu Tyr
          355          360          365
Gly Lys Val Glu Phe Val Phe Ser Tyr Gly Pro Glu Lys Ile Gln Gly
          370          375          380
Met Glu His Leu Glu Asn Gly Pro Ser Val Ser Val Asp Tyr Asn Thr
385          390          395          400
Ser Asp Pro Leu Ile Arg Trp Asp Ser Tyr Asp Asn Phe Ser Gly His
          405          410          415
Arg Asp Asp Gly Met Glu Glu Val Val Gly His Thr Gln Gly Pro Leu
          420          425          430
Asp Gly Ser Leu Tyr Ala Lys Val Lys Lys Lys Asp Ser Leu His Gly
          435          440          445
Ser Thr Gly Ala Val Asn Ala Thr Arg Pro Thr Leu Ser Ala Thr Pro
450          455          460
Asn His Val Glu His Thr Leu Ser Val Ser Ser Asp Ser Gly Asn Ser
465          470          475          480
Thr Ala Ser Thr Lys Thr Asp Lys Thr Asp Glu Pro Val Pro Gly Ala
          485          490          495
Ser Ser Ala His Ala Ala Arg Thr Val Thr Ile Leu Val Trp Gln Phe
          500          505          510
Ile Val Gln Asp Val Cys Leu Pro Leu Arg Cys
          515          520

```

&lt;210&gt; 4131

&lt;211&gt; 608

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4131

```

cgcccgccgc gggcgccgcg ggccgggcag gggcgagggg cgccgggtct tgccccagaa
60
gctgcgggca catccacgcc tgaaatgcgg cgctcagtcg ttggtcaggaa cccaggccac
120
aaaggcctga gaccggttta tgaagagctc gactctgact ccgaggacct agaccccaat
180
cctgaagatc tggaccgggt ttctgaagac ccagagcctg atcctgaaga cctcaacact
240
gtcccggaag acgtggaccc cagctatgaa gatctggagc ccgtctcgga ggatctggac
300
cccgacgcgg aagctccggg ctcggaaccc caagatcccg accccatgtc ttcgagtttc
360
gacctcgatc cagatgtgat tggccccgta cccctgattc tcgatacctaa cagcgacacc
420
ctcagccccg gcgatccaaa agtggacccc nnatctcttc tggcctcaact gcgagcccc
480
aggctctggc caccagcccc ggggtgctcc ccgccccgc cagcccgccc cggcccttct
540
cctgccccga ttgcggcgaa gccttcgcc gcagctccgg gctgagccag catcgccgca
600

```

cgcacagc

608

&lt;210&gt; 4132

&lt;211&gt; 194

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4132

```

Arg Pro Ala Arg Ala Arg Arg Ala Gly Gln Gly Arg Gly Ala Pro Gly
 1           5           10           15
Leu Ala Pro Glu Ala Ala Gly Thr Ser Thr Pro Glu Met Arg Arg Ser
 20           25           30
Val Leu Val Arg Asn Pro Gly His Lys Gly Leu Arg Pro Val Tyr Glu
 35           40           45
Glu Leu Asp Ser Asp Ser Glu Asp Leu Asp Pro Asn Pro Glu Asp Leu
 50           55           60
Asp Pro Val Ser Glu Asp Pro Glu Pro Asp Pro Glu Asp Leu Asn Thr
 65           70           75           80
Val Pro Glu Asp Val Asp Pro Ser Tyr Glu Asp Leu Glu Pro Val Ser
 85           90           95
Glu Asp Leu Asp Pro Asp Ala Glu Ala Pro Gly Ser Glu Pro Gln Asp
100           105           110
Pro Asp Pro Met Ser Ser Ser Phe Asp Leu Asp Pro Asp Val Ile Gly
115           120           125
Pro Val Pro Leu Ile Leu Asp Pro Asn Ser Asp Thr Leu Ser Pro Gly
130           135           140
Asp Pro Lys Val Asp Pro Xaa Ser Pro Leu Ala Ser Leu Arg Ala Pro
145           150           155           160
Arg Ser Trp Pro Pro Ala Pro Arg Cys Ser Pro Pro Pro Pro Ala Arg
165           170           175
Pro Gly Pro Ser Pro Ala Arg Ile Ala Ala Lys Pro Ser Ala Ala Ala
180           185           190
Pro Gly

```

&lt;210&gt; 4133

&lt;211&gt; 1646

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4133

```

tttttttttt tttttttttt tttttttttt tttttttttt ttaacgagtc tcaaattttt
60
attttgatgg caaaaatcac acaggaaga acaaaaatta tccatgacaa actaggagtg
120
gaaatgggct gggagacaca gaaaatgggt gccacagtt cctgggatcc ctctggaat
180
cctgggtttc ctcttagga ccctgcaagg taccctacgt gcctcctgga accccccccc
240
accccgagg tccaaggaa ccagtttga gaaccaaggc tttaggcaa ggacttcctt
300
gcacaagaag gtgcagatgt acagggatgg ttacagacagt ggcctcaacc tcaatggctt
360

```



catcctcctc ctccagcagg ctgtaggaag catggctctg gcaaggccgc tgcaggggggt  
 420  
 gggccaacag ttctgccatg cagttgtgca actccagggc tggcccagcc agtgccacct  
 480  
 catacttgta gctggtaccc ttggtatcca ggctgcccat gaaggcaaac atatccttcc  
 540  
 aactcatctc ctctccttcc tcttcagtgc catttgtggat gtaaacaacg tcaaagaaga  
 600  
 aatatgggca ctggaacatt ttcttcatgg gctccgtcaa ggagaactgg ggctggcaag  
 660  
 gtggacggct gtagacaagg atggtgcgga ccacatatgg cgggggaatc gtctgcacgt  
 720  
 tctctgtgac cggaagctca gttttctgct ggatgaggct gaaaagtcct tccagattga  
 780  
 aggtggaaca ggaggccgct tccagatcat agaggcagct acagagctcg cgggggctcg  
 840  
 aggtcaggcc agacagccag gccgtgtcat cgttcaccac caccagtgc aactcgtggc  
 900  
 ttttgctgat cttgtgtttt gtccgcacga acatctcaat catcttctgg gagacattga  
 960  
 gggcggttgg tttggagccg ttgaacgact ccagctttgg cagtgcacatt tcctctgaca  
 1020  
 ggtccaggca gataatcact ttctctggac agttgacct tgggtgccga atttggacct  
 1080  
 caggggctgg cgggggcacc tgccaggact tagggccggc tctgaagtg ttgaggtcc  
 1140  
 catcatcagc actggcggcc tcaccctcac cctcgctgcg gctgcccacg ctggcctgtg  
 1200  
 cccctactgc ccggtcctca gccccttcag gattggagcg agtgcggggc cgaggctctg  
 1260  
 ccgagtgtc ctcttctctc tctcctctt cagtggggct gctgggctct gccacttcca  
 1320  
 tggctcctgt gtggcttcgg ctcaccgtag cctgaacctc cttctaaatc agccgccgac  
 1380  
 tcaactaggaa gccgccatct ttaacagccg aagttgtacg gcgcagcccc gacgcctcct  
 1440  
 gggaaatgta gttcagcggg ctgcagaaca agcagagaca gaaactggtt gaggctagaa  
 1500  
 agaacttgga aactgatagg ctgaaactgg gttgggggtg gggtttggag tgagagctgc  
 1560  
 ctggagctgg gtgcggcggg acctggaatg tgattggcta cactggagca aagtatgaaa  
 1620  
 tgtgattgga ttaaaaaaat tagtga  
 1646

&lt;210&gt; 4134

&lt;211&gt; 329

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4134

Met	Glu	Val	Ala	Glu	Pro	Ser	Ser	Pro	Thr	Glu	Glu	Glu	Glu	Glu	Glu
1					5				10					15	
Glu	Glu	His	Ser	Ala	Glu	Pro	Arg	Pro	Arg	Thr	Arg	Ser	Asn	Pro	Glu

3322

agtgggtctat gtcggcctgg acgctttatc tgatacagag gtagctgcag cgggtgggcaa  
 300  
 ctcgatgttc agcgacctgg tgtcagttgc gggtcacatc tataagtttg gcatcgatga  
 360  
 tggcttgccc ggggccaccg gcggcaag  
 388

<210> 4136

<211> 123

<212> PRT

<213> Homo sapiens

<400> 4136

Met	Tyr	Leu	Thr	Gln	Gln	Arg	Ile	Ser	Asp	Pro	Val	Met	Glu	Gly	Leu
1				5				10					15		
Arg	Ser	Ala	Val	Arg	Tyr	Asp	Lys	Thr	Tyr	Phe	Asp	Lys	Ile	Val	Ala
			20					25					30		
Ser	Leu	Leu	Pro	Leu	Leu	Glu	Lys	Leu	Thr	Thr	Gly	Arg	Ile	Ala	Glu
			35				40					45			
Leu	Leu	Ser	Pro	Asp	Tyr	Met	Asp	Leu	Glu	Asp	Pro	Arg	Pro	Ile	Phe
		50				55					60				
Asp	Trp	Met	Gln	Ile	Ile	Arg	Lys	Arg	Ala	Val	Val	Tyr	Val	Gly	Leu
65				70						75					80
Asp	Ala	Leu	Ser	Asp	Thr	Glu	Val	Ala	Ala	Ala	Val	Gly	Asn	Ser	Met
				85						90				95	
Phe	Ser	Asp	Leu	Val	Ser	Val	Ala	Gly	His	Ile	Tyr	Lys	Phe	Gly	Ile
			100					105					110		
Asp	Asp	Gly	Leu	Pro	Gly	Ala	Thr	Gly	Gly	Lys					
		115					120								

<210> 4137

<211> 2255

<212> DNA

<213> Homo sapiens

<400> 4137

cggacctccc gcgcgccccg cacccgaccg gctcagccgc cggcagcgta acacgcctta  
 60  
 cgctcgcttg ctgcgcggcc tcagggcagg caggcgggcg cgggagaccc cgccggggcc  
 120  
 gagacttggg gcgggcgacg aggaccaggt tacggcctcc tcgcatgtc ctgggctgc  
 180  
 gacgcgggcg accactaccc cctgcacctc ctagtctgga aaaacgacta ccggcagctc  
 240  
 gagaaggagc tgcagggccg gaatgtggag gctgtggacc cacgaggtcg aacattattg  
 300  
 catcttgctg tttccttggg acatttgga tctgctcgag tcttactccg acataaagca  
 360  
 gatgtgacaa aagaaaatcg ccagggatgg acagttttac atgaggctgt gagcactggc  
 420  
 gatcctgaga tgggtgtacac agttctccaa catcgagact accacaacac atccatggcc  
 480  
 cttgagggag ttcctgagct gtcctcaaaa attctcgagg ctccggattt ctatgtgcag  
 540

atgaaatggg aattcaccag ctgggtgccc ttggtttcta gaatatgccc aatgatgtc  
600  
tgtcgcatct ggaaaagtgg tgccaaactg cgcgtcgata tcacattgct gggatttgaa  
660  
aacatgagct ggataagagg gaggcgtagt tttatattta agggagaaga caactgggcg  
720  
gagttaatgg aagtcaacca tgatgacaaa gtggtcacca ccgaacgctt cgacctttcc  
780  
caagaaatgg agcgcctcac tctggacttg atgaagccaa aaagcagggga agttgagcgg  
840  
cggtcacaaa gccctgtcat taacaccagc ctcgatacta aaaatattgc ttttgaaaga  
900  
actaaatccg gattctgggg ctggaggaca gataaagcag aagttgttaa tggttacgaa  
960  
gcaaaggttt acacagtaaa caatgtgaat gtgatcacca aaatacgcac agaacatctg  
1020  
accgaggagg aaaaaaagag atataaagca gacaggaacc cgctggaatc tttgctggga  
1080  
actgtggaac accaatttgg tgcacaaggg gacctacca cggaatgtgc tactgcaaac  
1140  
aaccacacag ccatcacgcc tgatgagtac ttcaatgaag agtttgatct gnaaagacag  
1200  
ggacattggn aaggccgaaa gagctgacga ttagaacaca gaagtttaaa gcaatgttgt  
1260  
ggatgtgtga agagtttccc ctctctctgg tggagcaggt cattcccatc attgacctaa  
1320  
tggtcgaac gagtgtcat tttgcaagac tgagagattt catcaaattg gaattcccat  
1380  
ctggatttcc tgtcaaaata gaaattccct tgtttcatgt cttaaagca cggattacat  
1440  
ttggaaatgt taatggctgt agcactgccg aagaatctgt atctcaaat gtggaaggga  
1500  
cccaggctga ttcagcttcc cacatcacaa actttgaggt tgatcaatct gtgtttgaaa  
1560  
ttcccgaatc ttactatgtt caagacaatg gcagaaatgt gcatttgcaa gatgaagatt  
1620  
acgagataat gcagtttggc atccagcaaa gtctgctgga gtccagcagg agccaggaac  
1680  
tttcaggacc agcttcgaat ggagggatca gccagacaaa cacctatgac gccagtatg  
1740  
agagggccat ccaggagagc ctccctacca gcacagaagg cctgtgcccc agegccctga  
1800  
gcgagacaag ccgttttgat aatgacttgc agctagccat ggagctctct gccaaagagc  
1860  
tggaaggaatg ggagctccgg ctccaggagg aagaggctga gctccagcaa gtcttacagc  
1920  
tgtcactcac tgacaaatag acctttcagc ctgtgagcct ctgcacaaag cagaggctgt  
1980  
gggctgtcac agatgtgtg tcaaccaggg ccctagggct aagggcctgc acctgctgtg  
2040  
catgcagcag gcaacaactg ccccttcttt atgcagaggt gcagaaccag ggactcctgg  
2100  
gcccattccag gctgtccctt ggggtggaga agggaccagg gattgcaggc cccatctcca  
2160

ggctaagggg aggagagcat catcactttc cattagctgt attggcttgc aggtcacatt  
 2220  
 tttactgccca gcattagaca aaacccaat ccccg  
 2255

<210> 4138  
 <211> 353  
 <212> PRT  
 <213> Homo sapiens

<400> 4138

Met	Ser	Ser	Ala	Cys	Asp	Ala	Gly	Asp	His	Tyr	Pro	Leu	His	Leu	Leu
1				5					10					15	
Val	Trp	Lys	Asn	Asp	Tyr	Arg	Gln	Leu	Glu	Lys	Glu	Leu	Gln	Gly	Gln
			20					25					30		
Asn	Val	Glu	Ala	Val	Asp	Pro	Arg	Gly	Arg	Thr	Leu	Leu	His	Leu	Ala
		35					40					45			
Val	Ser	Leu	Gly	His	Leu	Glu	Ser	Ala	Arg	Val	Leu	Leu	Arg	His	Lys
	50					55					60				
Ala	Asp	Val	Thr	Lys	Glu	Asn	Arg	Gln	Gly	Trp	Thr	Val	Leu	His	Glu
65					70					75				80	
Ala	Val	Ser	Thr	Gly	Asp	Pro	Glu	Met	Val	Tyr	Thr	Val	Leu	Gln	His
				85					90					95	
Arg	Asp	Tyr	His	Asn	Thr	Ser	Met	Ala	Leu	Glu	Gly	Val	Pro	Glu	Leu
			100					105					110		
Leu	Gln	Lys	Ile	Leu	Glu	Ala	Pro	Asp	Phe	Tyr	Val	Gln	Met	Lys	Trp
		115					120					125			
Glu	Phe	Thr	Ser	Trp	Val	Pro	Leu	Val	Ser	Arg	Ile	Cys	Pro	Asn	Asp
		130				135					140				
Val	Cys	Arg	Ile	Trp	Lys	Ser	Gly	Ala	Lys	Leu	Arg	Val	Asp	Ile	Thr
145					150					155				160	
Leu	Leu	Gly	Phe	Glu	Asn	Met	Ser	Trp	Ile	Arg	Gly	Arg	Arg	Ser	Phe
			165					170						175	
Ile	Phe	Lys	Gly	Glu	Asp	Asn	Trp	Ala	Glu	Leu	Met	Glu	Val	Asn	His
		180						185					190		
Asp	Asp	Lys	Val	Val	Thr	Thr	Glu	Arg	Phe	Asp	Leu	Ser	Gln	Glu	Met
		195					200					205			
Glu	Arg	Leu	Thr	Leu	Asp	Leu	Met	Lys	Pro	Lys	Ser	Arg	Glu	Val	Glu
		210				215					220				
Arg	Arg	Leu	Thr	Ser	Pro	Val	Ile	Asn	Thr	Ser	Leu	Asp	Thr	Lys	Asn
225					230					235				240	
Ile	Ala	Phe	Glu	Arg	Thr	Lys	Ser	Gly	Phe	Trp	Gly	Trp	Arg	Thr	Asp
			245					250						255	
Lys	Ala	Glu	Val	Val	Asn	Gly	Tyr	Glu	Ala	Lys	Val	Tyr	Thr	Val	Asn
		260						265					270		
Asn	Val	Asn	Val	Ile	Thr	Lys	Ile	Arg	Thr	Glu	His	Leu	Thr	Glu	Glu
		275					280					285			
Glu	Lys	Lys	Arg	Tyr	Lys	Ala	Asp	Arg	Asn	Pro	Leu	Glu	Ser	Leu	Leu
		290				295					300				
Gly	Thr	Val	Glu	His	Gln	Phe	Gly	Ala	Gln	Gly	Asp	Leu	Thr	Thr	Glu
305					310					315				320	
Cys	Ala	Thr	Ala	Asn	Asn	Pro	Thr	Ala	Ile	Thr	Pro	Asp	Glu	Tyr	Phe
				325				330						335	
Asn	Glu	Glu	Phe	Asp	Leu	Xaa	Arg	Gln	Gly	His	Trp	Xaa	Gly	Arg	Lys

340 345 350  
 Ser  
  
 <210> 4139  
 <211> 431  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 4139  
 acgcgtgtcc cccgcccctc gcagaggact gtctcccgtc cagggcctct ctgcctcccc  
 60  
 gagtccaggg ccctcctgag cgccagcccg gaggtgggtg tcgcagtggg attccctggg  
 120  
 ggtaagtgtc ctgttcctgt gcgcgtgccc tgagccccgc ctgggtccta ggccaccac  
 180  
 cgacactgcc cccacacag ccgggaagtc cacctttctc aagaagcacc tcgtgtcggc  
 240  
 cggatatgtc cacgtgaaca gggatatgacc aggccttttg cgccccaaat ctattataaa  
 300  
 gttcccatct ccacctctca actggtttg ggcggtttc ctccatcatt gcctccccgt  
 360  
 cccgcctcgg ggtctctctc ccctgggggt ctgccgatct gtttgtgacc tctcgtgtcc  
 420  
 ccaggacacg c  
 431  
  
 <210> 4140  
 <211> 50  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 4140  
 Thr Arg Val Pro Arg Pro Ser Gln Arg Thr Val Ser Arg Ser Gly Pro  
 1 5 10 15  
 Leu Cys Leu Pro Glu Ser Arg Ala Leu Leu Ser Ala Ser Pro Glu Val  
 20 25 30  
 Val Val Ala Val Gly Phe Pro Gly Gly Lys Cys Pro Val Pro Val Arg  
 35 40 45  
 Val Pro  
 50  
  
 <210> 4141  
 <211> 1182  
 <212> DNA  
 <213> Homo sapiens  
  
 <400> 4141  
 nnaccagctc cgcgcctcgg cctctccgcc ccctcccag cctttctctc gccctcttct  
 60  
 ccacactcc cgcccggcgc ctccgctttg tgcgaggaga tgggtgtagc ccctggccgc  
 120  
 cgaaggagga gccggacact tgtctccgt ctccgagctg ctccccaccc ctggaggaga  
 180

gacccccccc tcggctcggc gccttctgcg tctcccggt ggtggggaag cctctgcgcc  
 240  
 gccggcacca tgagtgaaca gagtatctgt caggcaagag ctgctgtgat ggtttatgat  
 300  
 gatgccaata agaagtgggt gccagctggt ggctcaactg gattcagcag agttcatatc  
 360  
 tatcaccata caggcaacaa cacattcaga gtgggtggga ggaagattca ggaccatcag  
 420  
 gtcgtgataa actgtgccat tcctaaaggg ttgaagtaca atcaagctac acagaccttc  
 480  
 caccagtggc gagatgctag acagggtgat ggtctcaact ttggcagcaa agaggatgcc  
 540  
 aatgtcttcg caagtgccat gatgcatgcc ttagaagtgt taaattcaca ggaaacaggg  
 600  
 ccaacattgc ctagacaaaa ctcacaacta cctgctcaag ttcaaaatgg cccatcccaa  
 660  
 gaagaattgg aaattcaaag aagacaacta caagaacagc aacggcaaaa ggagctggag  
 720  
 cgggaaaggg tggagcgaga aagaatggaa agagaaaggt tggagagaga gaggttagaa  
 780  
 agggaaaggg tggagagggg gcgactggaa caagaacagc tggagagaga gagacaagaa  
 840  
 cgggaacggc aggaacgcct ggagcggcag gaacgcctgg agcggcagga acgcctggag  
 900  
 cggcaggaac gcctggatcg ggagagggaa agacaagaac gagagaggct ggagagactg  
 960  
 gaacgggaga ggcaagaaag ggagcgacaa gagcagttag aaagggaaaca gctggaatgg  
 1020  
 gagagagagc gcagaatatc aagtgtctgt gcccctgcct ctgttgagac tcctctaaac  
 1080  
 tctgtgctgg gagactcttc tgcttctgag ccaggcttgc aggcagcctc tcagccggcc  
 1140  
 gagactccat cccaacaggg cattgtcttg ggaccacttg ca  
 1182

&lt;210&gt; 4142

&lt;211&gt; 311

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4142

Met	Ser	Glu	Gln	Ser	Ile	Cys	Gln	Ala	Arg	Ala	Ala	Val	Met	Val	Tyr
1				5				10					15		
Asp	Asp	Ala	Asn	Lys	Lys	Trp	Val	Pro	Ala	Gly	Gly	Ser	Thr	Gly	Phe
			20					25				30			
Ser	Arg	Val	His	Ile	Tyr	His	His	Thr	Gly	Asn	Asn	Thr	Phe	Arg	Val
		35				40						45			
Val	Gly	Arg	Lys	Ile	Gln	Asp	His	Gln	Val	Val	Ile	Asn	Cys	Ala	Ile
	50				55			60							
Pro	Lys	Gly	Leu	Lys	Tyr	Asn	Gln	Ala	Thr	Gln	Thr	Phe	His	Gln	Trp
65				70				75						80	
Arg	Asp	Ala	Arg	Gln	Val	Tyr	Gly	Leu	Asn	Phe	Gly	Ser	Lys	Glu	Asp
			85					90						95	
Ala	Asn	Val	Phe	Ala	Ser	Ala	Met	Met	His	Ala	Leu	Glu	Val	Leu	Asn

	100		105		110										
Ser	Gln	Glu	Thr	Gly	Pro	Thr	Leu	Pro	Arg	Gln	Asn	Ser	Gln	Leu	Pro
	115		120		125										
Ala	Gln	Val	Gln	Asn	Gly	Pro	Ser	Gln	Glu	Glu	Leu	Glu	Ile	Gln	Arg
	130		135		140										
Arg	Gln	Leu	Gln	Glu	Gln	Gln	Arg	Gln	Lys	Glu	Leu	Glu	Arg	Glu	Arg
145			150		155				160						
Leu	Glu	Arg	Glu	Arg	Met	Glu	Arg	Glu	Arg	Leu	Glu	Arg	Glu	Arg	Leu
			165		170				175						
Glu	Arg	Glu	Arg	Leu	Glu	Arg	Glu	Arg	Leu	Glu	Gln	Glu	Gln	Leu	Glu
	180		185		190										
Arg	Glu	Arg	Gln	Glu	Arg	Glu	Arg	Gln	Glu	Arg	Leu	Glu	Arg	Gln	Glu
	195		200		205										
Arg	Leu	Glu	Arg	Gln	Glu	Arg	Leu	Glu	Arg	Gln	Glu	Arg	Leu	Asp	Arg
	210		215		220										
Glu	Arg	Glu	Arg	Gln	Glu	Arg	Glu	Arg	Leu	Glu	Arg	Leu	Glu	Arg	Glu
225			230		235				240						
Arg	Gln	Glu	Arg	Glu	Arg	Gln	Glu	Gln	Leu	Glu	Arg	Glu	Gln	Leu	Glu
			245		250				255						
Trp	Glu	Arg	Glu	Arg	Arg	Ile	Ser	Ser	Ala	Ala	Ala	Pro	Ala	Ser	Val
	260		265		270										
Glu	Thr	Pro	Leu	Asn	Ser	Val	Leu	Gly	Asp	Ser	Ser	Ala	Ser	Glu	Pro
	275		280		285										
Gly	Leu	Gln	Ala	Ala	Ser	Gln	Pro	Ala	Glu	Thr	Pro	Ser	Gln	Gln	Gly
	290		295		300										
Ile	Val	Leu	Gly	Pro	Leu	Ala									
305			310												

&lt;210&gt; 4143

&lt;211&gt; 1773

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4143

```

tttttgacag atcaaagtag agtcatagat ttattttaat taaaatagat taaaaacaga
60
ctgtgtaaaa gaattagaat tctcaataat ttactattat ttacattagc aaatgtcggg
120
cgttagtaga cactgagcag agaagcttga agaacgggga tcctctcctg tgggcagggg
180
agccccagct tcctcgtga ttcccgctct ttcaagttca ttatggcagc tctgtcaatg
240
agcacccag ggtggtgtgg ccgcagcacc aggaccgcg ctgaaggccc agagacctgg
300
caggccggga agaaattcct ttcttttggg aagaaccacc aacgctcagt ccaagctcac
360
acggttatct agtcggcaat gccttccctg ccctgcagcc aatacccccc actgtgctgg
420
gccttctgca aatactcctg gggttgaccc aaaccagtt tccagataaa agataaaaag
480
aaaaaaaaa aggccacata tcccagttct cagagaaatc ctggattact aaacatcccc
540
tgctgtggc acctggaatg ggtgacttgt caaatctcc ctcaagacgt tttgtgcgtt
600

```



tgccgtggga gggaaatggtg gggagtcagg gtggctgggg ggcactagge cacttcacca  
 660  
 agagggatgc acctcccagg aagcagtagc agtgagagcg agccccacag gaactgtccc  
 720  
 tgccctggca gtgcgcaccc tgtgggcacc aagcagggag tgaagaccct cagaacacag  
 780  
 ccctgtctcc ggctgtgacc tcagcttgct ggagactctg cggtcagcct ggcccactag  
 840  
 gagccccctgc tgctccactt gcaggacacc caggcctcct ggcgtcagtg gggcctggga  
 900  
 cgtctgggag ttccagagct gggtcagcag ctgtgaccat gggggccagc acagtggaca  
 960  
 gcatcagagc tggcagtgaa cagctgaggg gggggaggcc tgatagagag gttcagtcce  
 1020  
 aaatgtctgt ctgaagggg accagggtgt aatatgacag gttggtgacg taggtgtctg  
 1080  
 ggtcgtcccc gtctccagc tctgagggaa actcactgcc attctcaaat aaatgctctg  
 1140  
 ttgggtccac gccagctgc tggctctctc catttggtat actgtggtca ataactattg  
 1200  
 tttcgggtatt tgctaaacaa aatccattgg acctcatgat ttctgatatt ttgactggac  
 1260  
 tttgaaagct gggttgaatt ttatgcacat tatcattttt taacacctga tccagaggag  
 1320  
 atctttcgaa gaagggtgagc acaacttccg atctagaata tttacagggc atgcttatga  
 1380  
 tcgtcttcag cagcttctcc acctcattaa gcctgggtctc tatgtcgtgg gcttccttta  
 1440  
 tggcaaccag tccttgccgc agcgccccct gcgccagtcc ggaccggtcc tcgggaaagg  
 1500  
 cgtcgcgcag gcgctgccac aggcggccca ggtccgccag gctgcggtgc aggtagagca  
 1560  
 cgctgcggtc cgaccactcc gtgcggatct cgaagaactc ctcttcgtcg ccgcgcgggc  
 1620  
 tgacgatgag cctgcggatg ccgttcaccc agcagccgcg cacgaacatg ttcacgagcg  
 1680  
 acgtgccctc aaacaccgcc gaggccatgt cgcacgcatg ccccgccaa gggctcccca  
 1740  
 gccccgccgc ccgccccgcc gcaggaggcg cgc  
 1773

&lt;210&gt; 4144

&lt;211&gt; 231

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4144

Met Ala Ser Ala Val Phe Glu Gly Thr Ser Leu Val Asn Met Phe Val  
 1 5 10 15  
 Arg Gly Cys Trp Val Asn Gly Ile Arg Arg Leu Ile Val Ser Arg Arg  
 20 25 30  
 Gly Asp Glu Glu Phe Phe Glu Ile Arg Thr Glu Trp Ser Asp Arg  
 35 40 45  
 Ser Val Leu Tyr Leu His Arg Ser Leu Ala Asp Leu Gly Arg Leu Trp

```

      50              55              60
Gln Arg Leu Arg Asp Ala Phe Pro Glu Asp Arg Ser Glu Leu Ala Gln
65              70              75              80
Gly Pro Leu Arg Gln Gly Leu Val Ala Ile Lys Glu Ala His Asp Ile
      85              90              95
Glu Thr Arg Leu Asn Glu Val Glu Lys Leu Leu Lys Thr Ile Ile Ser
      100              105              110
Met Pro Cys Lys Tyr Ser Arg Ser Glu Val Val Leu Thr Phe Phe Glu
      115              120              125
Arg Ser Pro Leu Asp Gln Val Leu Lys Asn Asp Asn Val His Lys Ile
      130              135              140
Gln Pro Ser Phe Gln Ser Pro Val Lys Ile Ser Glu Ile Met Arg Ser
145              150              155              160
Asn Gly Phe Cys Leu Ala Asn Thr Glu Thr Ile Val Ile Asp His Ser
      165              170              175
Ile Pro Asn Gly Arg Asp Gln Gln Leu Gly Val Asp Pro Thr Glu His
      180              185              190
Leu Phe Glu Asn Gly Ser Glu Phe Pro Ser Glu Leu Glu Asp Gly Asp
      195              200              205
Asp Pro Ala Ala Tyr Val Thr Asn Leu Ser Tyr Tyr His Leu Val Pro
      210              215              220
Phe Glu Thr Asp Ile Trp Asp
225              230

```

<210> 4145  
 <211> 400  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4145
nnaacccttg agatgctggc tggagaccct ctactctcag aagacccaga acctgacaag
60
acctctgcag ccactgttac caacgaagcc agctgttga gcgcccccctc cccagagggc
120
cctgtacccc tcacagggga ggaactggac ttgcggctca ttcggacaaa ggggggtgtg
180
gacgcagccc tggaatatgc caagacctgg agccgctatg ccaaggaact gcttgctgg
240
actgaaaaga gagccagcta tgagctggag tttgctaaga gcaccatgaa gatcgctgaa
300
gctggcaagg tgtccattca acagcagagc cacatgcctc tgcagtacat ctacaccctg
360
tttctggagc acgatctcag cctgggaacc ctggccatgg
400

```

<210> 4146  
 <211> 133  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4146
Xaa Thr Leu Glu Met Leu Ala Gly Asp Pro Leu Leu Ser Glu Asp Pro
1          5          10          15
Glu Pro Asp Lys Thr Pro Ala Ala Thr Val Thr Asn Glu Ala Ser Cys

```

```
<210> 4147
<211> 4892
<212> DNA
<213> Homo sapiens
```

```

<400> 4147
nnaaatgtag agaagcagcc gataaaatag cattgcctga agaagtttgg aggctgagag
60
cagcagtaga ctggccaact gcagagcaag ttgtttctcc agccgtgagg tgcagcctca
120
tgcccccaac ccagcttagc cactgtaaga agacgttcac tgtacagacg accaaacttg
180
ccgtggaaga gacagttgtg agattccctt gcaaatttac atacgagaat ggcttgtgaa
240
atcatgcctc tgcaaagttc acaggaagat gaaagacctc tgtcaccttt ctatttgagt
300
gtcatgttac cccaagtcag caatgtgtct gcaaccggag aactcttaga aagaaccatc
360
cgatcagctg tagaacaaca tctttttgat gttaataact ctggagggtca aagttcagag
420
gactcagaat ctggaacact atcagcatct tctgccacat ctgccagaca gcgccgccgc
480
cagtccaagg agcaggatga agttcgacat gggagagaca agggacttat caacaaagaa
540
aatactcctt ctgggttcaa ccaccttgat gattgtattt tgaatactca ggaagtcgaa
600
aagggtacaca aaaatacttt tggttgtgct ggagaaaagga gcaagcctaa acgtcagaaa
660
tccagtacta aactttctga gcttcatgac aatcaggacg gtcttgtgaa tatggaaagt
720
ctcaattcca cacgatctca tgagagaact ggacctgatg attttgaatg gatgtctgat
780
gaaaggaaaag gaaatgaaaa agatgggtgga cacactcagc attttgagag cccacaatg
840
aagatccagg agcatcccag cctatctgac accaaacagc agagaaatca agatgccggt
900
gaccaggagg agagctttgt ctccgaagtg cccagtcgg acctgactgc attgtgtgat
960

```

gaaaagaact gggaagagcc tatccctgct ttctcctcct ggcagcggga gaacagtgc  
1020  
tctgatgaag cccacctctc gccgcaggct gggcgctga tccgtcagct gctggacgaa  
1080  
gacagcgacc ccatgctctc tcctcgggtc tacgcttatg ggcagagcag gcaatacctg  
1140  
gatgacacag aagtgcctcc ttccccacca aactcccatt ctttcatgag gcggcgaagc  
1200  
tcctctctgg ggtcctatga tgatgagcaa gaggacctga cacctgcccc gctcacacga  
1260  
aggattcaga gccttaaaaa gaagatccgg aagtttgaag atagattcga agaagagaag  
1320  
aagtacagac ctccccacag tgacaaagca gccaatccgg aggttctgaa atggacaaat  
1380  
gaccttgcca aattccggag acaacttaaa gaatcaaac taaagatatc tgaagaggac  
1440  
ctaactccca ggatgcggca gcgaagcaac acactcccca agagttttgg ttcccaactt  
1500  
gagaaagaag atgagaagaa gcaagagctg gtggataaag caataaagcc cagtgttgaa  
1560  
gccacattgg aatctattca gaggaagctc caggagaagc gagcggaaag cagccgcctt  
1620  
gaggacatta aggatatgac caaagaccag attgctaatag agaaagtggc tctgcagaaa  
1680  
gctctgttat attatgaaag cattcatgga cggccggtaa caaagaacga acggcagggtg  
1740  
atgaagccac tatacgacag gtaccggctg gtcaaacaga tcctctcccc agctaacacc  
1800  
atacccatca ttggttcccc ctccagcaag cggagaagcc ctttgctgca gccattatc  
1860  
gaggcgaaa ctgcttcctt cttcaaggag ataaaggaag aagaggaggg gtcagaagac  
1920  
gatagcaatg tgaagccaga cttcatggc actctgaaaa cgcatttcag tgcacgatgc  
1980  
tttctggacc aattcgaaga tgacgctgat ggatttattt ccccaatgga tgataaata  
2040  
ccatcaaaat gcagccagga cacagggtt tcaaactctc atgctgcctc aatacctgaa  
2100  
ctcctggaac acctccagga aatgagagaa gaaaagaaaa ggattcgaaa gaaacttcgg  
2160  
gattttgaag acaacttttt cagacagaat ggaagaaatg tccagaagga agaccgcact  
2220  
cctatggctg aagaatacag tgaatataag cacataaagg cgaaactgag gctcctggag  
2280  
gtgctcatca gcaagagaga cactgattcc aagtccatgt gaggggcatg gccaaacaca  
2340  
gggggctggc agctgcggtg agagtttact gtccccagag aaagtgcagc tctggaaggc  
2400  
agccttgggg ctggccctgc aaagcatgca gcccttctgc ctctagacca tttggcatcg  
2460  
gctcctgttt ccattgcctg ccttagaaaac tggctggaag aagacaatgt gacctgactt  
2520  
aggcattttg taattggaaa gtcaagactg cagtatgtgc acatgcgcac gcgcatgcac  
2580

gcacacacac acacagtagt ggagctttcc taacactagc agagattaat cactacatta  
2640  
gacaacactc atctacagag aatatacact gttcttccct ggataactga gaaacaagag  
2700  
accattctct gtctaactgt gataaaaaca agctcaggac tttattctat agagcaaact  
2760  
tgctgtggag ggccatgctc tccttgacc cagttaactg caaacgtgca ttggagccct  
2820  
atttgctgcc gctgccattc tagtgacctt tccacagagc tgcgccttcc tcacgtgtgt  
2880  
gaaaggTTTT ccccttcagc cctcaggtag atggaagctg catctgccc cgtggcagt  
2940  
gcagtcatca tcttcaggat gtttcttcag gacttcctca gctgacaagg aattttggtc  
3000  
cctgcctagg accgggtcat ctgcagagga cagagagatg gtaagcagct gtatgaatgc  
3060  
tgattttaaa accaggtcat gggagaagag cctggagatt ctttcctgaa cactgactgc  
3120  
acttaccagt ctgattttat cgtcaaacac caagccaggc tagcatgctc atggcaatct  
3180  
gtttggggct gttttgttgt ggcactagcc aaacataaag gggcttaagt cagcctgcat  
3240  
acagaggatc ggggagagaa ggggcctgtg ttctcagcct cctgagtact taccagagtt  
3300  
taattttttt aaaaaaatc tgcactaaaa tccccaaact gacaggtaaa tgtagccctc  
3360  
agagctcagc ccaaggcaga atctaaatca cactattttc gagatcatgt ataaaaagaa  
3420  
aaaaaagaag tcattgctgtg tggccaatta taattttttt caaagacttt gtcacaaaac  
3480  
tgtctatatt agacattttg gagggaccag gaaatgtaag acaccaaate ctccatctct  
3540  
tcagtgtgcc tgatgtcacc tcattgattg ctgttacttt ttttaactct gcgccaagga  
3600  
cagtgggttc tgtgtccacc tttgtgcttt gcgaggccga gccagggcat ctgctcgctc  
3660  
gccacggctg accagagaag gtgcttcagg agctctgcct tagacgacgt gttacagtat  
3720  
gaacacacag cagaggcacc ctctgtatgt ttgaaagtgt ccttctgaaa gggcacagtt  
3780  
ttaaggaaaa gaaaaagaat gtaaaactat actgaccgt tttcagtttt aaagggtcgt  
3840  
gagaaactgg ctggtccaat gggatttaca gcaacatttt ccattgctga agtgaggtag  
3900  
cagctctctt ctgtcagctg aatgttaagg atggggaaaa agaatgcctt taagtttgc  
3960  
cttaatcgta tggaaagctt agctatgtgt tggaaagtgc ctggttttaa tccatacaca  
4020  
aagacggtag ataactctac aggttttaaat gtacataaaa atatagtttg gaattctttg  
4080  
ctctactgtt tacattgcag attgctataa tttcaaggag tgagattata aataaaatga  
4140  
tgcactttag gatgtttcct atttttgaaa tctgaacatg aatcattcac atgacaaaaa  
4200

attgtgtttt tttaaaaata catgtctagt ctgtccttta atagctctct taaataagct  
 4260  
 atgatattaa tcagatcatt accagttagc ttttaaagca catttgttta agactatggt  
 4320  
 tttggaaaaa tacgctacag aatttttttt taagctacaa ataaatgaga tgctactaat  
 4380  
 tgttttggaa tctgttggtt ctgccaaagg taaattaact aaagatttat tcaggaatcc  
 4440  
 ccatttgaat ttgtatgatt caataaaaaga aaacaccaag taagttatat aaaataaatt  
 4500  
 gtgtatgaga tgttgtgttt tcctttgtaa tttccactaa ctaactaact aacttatatt  
 4560  
 cttcatggaa tggagcccag aagaaatgag aggaagccct tttcacacta gatcttattt  
 4620  
 gaagaaatgt ttgttagtca gtcagtcagt ggtttctggc tctgccgagg gagatgtgtt  
 4680  
 cccagcaac catttctgca gccagaatc tcaaggcact agaggcgggtg tcttaattaa  
 4740  
 ttggcttcac aaagacaaaa tgctctggac tgggattttt cctttgctgt gttgggaata  
 4800  
 tgtgtttatt aattagcaca tgccaacaaa ataaatgtca agagttattt cataagtgt  
 4860  
 agtaaactta agaatcnaag agtgccgact ta  
 4892

&lt;210&gt; 4148

&lt;211&gt; 697

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4148

Met	Ala	Cys	Glu	Ile	Met	Pro	Leu	Gln	Ser	Ser	Gln	Glu	Asp	Glu	Arg
1				5				10						15	
Pro	Leu	Ser	Pro	Phe	Tyr	Leu	Ser	Ala	His	Val	Pro	Gln	Val	Ser	Asn
			20					25					30		
Val	Ser	Ala	Thr	Gly	Glu	Leu	Leu	Glu	Arg	Thr	Ile	Arg	Ser	Ala	Val
			35					40				45			
Glu	Gln	His	Leu	Phe	Asp	Val	Asn	Asn	Ser	Gly	Gly	Gln	Ser	Ser	Glu
			50				55			60					
Asp	Ser	Glu	Ser	Gly	Thr	Leu	Ser	Ala	Ser	Ser	Ala	Thr	Ser	Ala	Arg
					70					75					80
Gln	Arg	Arg	Arg	Gln	Ser	Lys	Glu	Gln	Asp	Glu	Val	Arg	His	Gly	Arg
				85					90					95	
Asp	Lys	Gly	Leu	Ile	Asn	Lys	Glu	Asn	Thr	Pro	Ser	Gly	Phe	Asn	His
			100					105					110		
Leu	Asp	Asp	Cys	Ile	Leu	Asn	Thr	Gln	Glu	Val	Glu	Lys	Val	His	Lys
		115				120						125			
Asn	Thr	Phe	Gly	Cys	Ala	Gly	Glu	Arg	Ser	Lys	Pro	Lys	Arg	Gln	Lys
						135					140				
Ser	Ser	Thr	Lys	Leu	Ser	Glu	Leu	His	Asp	Asn	Gln	Asp	Gly	Leu	Val
					150					155					160
Asn	Met	Glu	Ser	Leu	Asn	Ser	Thr	Arg	Ser	His	Glu	Arg	Thr	Gly	Pro
				165				170						175	
Asp	Asp	Phe	Glu	Trp	Met	Ser	Asp	Glu	Arg	Lys	Gly	Asn	Glu	Lys	Asp

180 185 190  
 Gly Gly His Thr Gln His Phe Glu Ser Pro Thr Met Lys Ile Gln Glu  
 195 200 205  
 His Pro Ser Leu Ser Asp Thr Lys Gln Gln Arg Asn Gln Asp Ala Gly  
 210 215 220  
 Asp Gln Glu Glu Ser Phe Val Ser Glu Val Pro Gln Ser Asp Leu Thr  
 225 230 235 240  
 Ala Leu Cys Asp Glu Lys Asn Trp Glu Glu Pro Ile Pro Ala Phe Ser  
 245 250 255  
 Ser Trp Gln Arg Glu Asn Ser Asp Ser Asp Glu Ala His Leu Ser Pro  
 260 265 270  
 Gln Ala Gly Arg Leu Ile Arg Gln Leu Leu Asp Glu Asp Ser Asp Pro  
 275 280 285  
 Met Leu Ser Pro Arg Phe Tyr Ala Tyr Gly Gln Ser Arg Gln Tyr Leu  
 290 295 300  
 Asp Asp Thr Glu Val Pro Pro Ser Pro Pro Asn Ser His Ser Phe Met  
 305 310 315 320  
 Arg Arg Arg Ser Ser Ser Leu Gly Ser Tyr Asp Asp Glu Gln Glu Asp  
 325 330 335  
 Leu Thr Pro Ala Gln Leu Thr Arg Arg Ile Gln Ser Leu Lys Lys Lys  
 340 345 350  
 Ile Arg Lys Phe Glu Asp Arg Phe Glu Glu Glu Lys Lys Tyr Arg Pro  
 355 360 365  
 Ser His Ser Asp Lys Ala Ala Asn Pro Glu Val Leu Lys Trp Thr Asn  
 370 375 380  
 Asp Leu Ala Lys Phe Arg Arg Gln Leu Lys Glu Ser Lys Leu Lys Ile  
 385 390 395 400  
 Ser Glu Glu Asp Leu Thr Pro Arg Met Arg Gln Arg Ser Asn Thr Leu  
 405 410 415  
 Pro Lys Ser Phe Gly Ser Gln Leu Glu Lys Glu Asp Glu Lys Lys Gln  
 420 425 430  
 Glu Leu Val Asp Lys Ala Ile Lys Pro Ser Val Glu Ala Thr Leu Glu  
 435 440 445  
 Ser Ile Gln Arg Lys Leu Gln Glu Lys Arg Ala Glu Ser Ser Arg Pro  
 450 455 460  
 Glu Asp Ile Lys Asp Met Thr Lys Asp Gln Ile Ala Asn Glu Lys Val  
 465 470 475 480  
 Ala Leu Gln Lys Ala Leu Leu Tyr Tyr Glu Ser Ile His Gly Arg Pro  
 485 490 495  
 Val Thr Lys Asn Glu Arg Gln Val Met Lys Pro Leu Tyr Asp Arg Tyr  
 500 505 510  
 Arg Leu Val Lys Gln Ile Leu Ser Arg Ala Asn Thr Ile Pro Ile Ile  
 515 520 525  
 Gly Ser Pro Ser Ser Lys Arg Arg Ser Pro Leu Leu Gln Pro Ile Ile  
 530 535 540  
 Glu Gly Glu Thr Ala Ser Phe Phe Lys Glu Ile Lys Glu Glu Glu Glu  
 545 550 555 560  
 Gly Ser Glu Asp Asp Ser Asn Val Lys Pro Asp Phe Met Val Thr Leu  
 565 570 575  
 Lys Thr Asp Phe Ser Ala Arg Cys Phe Leu Asp Gln Phe Glu Asp Asp  
 580 585 590  
 Ala Asp Gly Phe Ile Ser Pro Met Asp Asp Lys Ile Pro Ser Lys Cys  
 595 600 605  
 Ser Gln Asp Thr Gly Leu Ser Asn Leu His Ala Ala Ser Ile Pro Glu

610	615	620
Leu Leu Glu His Leu Gln Glu Met Arg Glu Glu Lys Lys Arg Ile Arg		
625	630	635
Lys Lys Leu Arg Asp Phe Glu Asp Asn Phe Phe Arg Gln Asn Gly Arg		640
	645	650
Asn Val Gln Lys Glu Asp Arg Thr Pro Met Ala Glu Glu Tyr Ser Glu		655
	660	665
Tyr Lys His Ile Lys Ala Lys Leu Arg Leu Leu Glu Val Leu Ile Ser		670
	675	680
Lys Arg Asp Thr Asp Ser Lys Ser Met		685
690	695	

&lt;210&gt; 4149

&lt;211&gt; 1396

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4149

nacaggggaa ataccgcggc gccggtagtt gctgtggttt ccgttctgag ctgcagctt  
 60  
 aggagctgaa gatcgcggaac ttagcgttgc cgcgtccgag tccggccatc agtggctgca  
 120  
 gatccggagg ccaggagctc aaccaccctt ctccggaaca gggccggcct gctgctgtgc  
 180  
 cctcgacgct cgggtgcctgt atctactccg gggcctaggc cggctccggg ggccgcttag  
 240  
 gagaaggccg ccggcgagat gttcaaaaac acgttccaga gcggcttcct ctccatcctc  
 300  
 tacagcatcg gcagcaagcc tctgcaaatac tgggacaaaa aggtacggaa tggccacatc  
 360  
 aaaagaatca ctgataatga catccagtcc ctggtgctag agattgaagg gacaaatgta  
 420  
 agcaccacat atatcacatg ccctgcagac cccaagaaga cgctgggaat taaacttctc  
 480  
 ttccttgtca tgattatcaa aaacctgaag aagtatttta ccttcgaagt gcaggtacta  
 540  
 gatgacaaga atgtgcgtcg tcgctttcgg gcaagtaact accagagcac caccgggtc  
 600  
 aaacccttca tctgcacat gccatgcgg ctggatgacg gctggaacca gattcagttc  
 660  
 aacttgctag acttcacacg gcgagcatac ggcaccaatt acatcgagac cctcagagt  
 720  
 cagatccatg caaattgtcg catccgacgg gtttacttct cagacagact ctactcagaa  
 780  
 gatgagctgc cggcagagtt caaactgtat ctccagttc agaacaaggc aaagcaataa  
 840  
 ctggaattgt gactcgagg atagaccct ggatgtgact cttcttttta aaaggaaact  
 900  
 atgtggagga cgatgcaaaa acatatttat cttagtttgc tctgctgtag ttctgttatt  
 960  
 tatacttggg gttgcttgc atggacaccg gtgaacatgc cgtaactctg tgactgcatt  
 1020  
 gtaagtgcag tgggggtaag cagtcctgtg agtggcgcat gaacgctgga gcttattccg  
 1080



ccgcctgccc cagtggtggg ggagatacct ttacccatgaa cttacagaat taaagatggc  
 1140  
 ccataaggaa ttccagacca atatttcttc ctgcggttta ttctatgttt tatatattat  
 1200  
 ctaaataatat gtatatgctg tgtcatactc ataactctgga aatgaataaa gtgatatatt  
 1260  
 cctggtttgt aaaaaaaaaa aaaaaatttg ctataaaatg agaagtctca ctgatagagg  
 1320  
 ttctttattg ctcatTTTTT aaaaaatgga ctcttgaaat ctgttaaaat aaaattgtac  
 1380  
 atttgaaaa aaaaaa  
 1396

<210> 4150

<211> 193

<212> PRT

<213> Homo sapiens

<400> 4150

Met	Phe	Lys	Asn	Thr	Phe	Gln	Ser	Gly	Phe	Leu	Ser	Ile	Leu	Tyr	Ser
1				5					10					15	
Ile	Gly	Ser	Lys	Pro	Leu	Gln	Ile	Trp	Asp	Lys	Lys	Val	Arg	Asn	Gly
		20						25					30		
His	Ile	Lys	Arg	Ile	Thr	Asp	Asn	Asp	Ile	Gln	Ser	Leu	Val	Leu	Glu
	35					40						45			
Ile	Glu	Gly	Thr	Asn	Val	Ser	Thr	Thr	Tyr	Ile	Thr	Cys	Pro	Ala	Asp
	50					55					60				
Pro	Lys	Lys	Thr	Leu	Gly	Ile	Lys	Leu	Pro	Phe	Leu	Val	Met	Ile	Ile
65					70					75				80	
Lys	Asn	Leu	Lys	Lys	Tyr	Phe	Thr	Phe	Glu	Val	Gln	Val	Leu	Asp	Asp
			85						90					95	
Lys	Asn	Val	Arg	Arg	Arg	Phe	Arg	Ala	Ser	Asn	Tyr	Gln	Ser	Thr	Thr
		100						105					110		
Arg	Val	Lys	Pro	Phe	Ile	Cys	Thr	Met	Pro	Met	Arg	Leu	Asp	Asp	Gly
		115					120					125			
Trp	Asn	Gln	Ile	Gln	Phe	Asn	Leu	Leu	Asp	Phe	Thr	Arg	Arg	Ala	Tyr
	130					135					140				
Gly	Thr	Asn	Tyr	Ile	Glu	Thr	Leu	Arg	Val	Gln	Ile	His	Ala	Asn	Cys
145					150					155				160	
Arg	Ile	Arg	Arg	Val	Tyr	Phe	Ser	Asp	Arg	Leu	Tyr	Ser	Glu	Asp	Glu
			165						170					175	
Leu	Pro	Ala	Glu	Phe	Lys	Leu	Tyr	Leu	Pro	Val	Gln	Asn	Lys	Ala	Lys
		180						185					190		

Gln

<210> 4151

<211> 1372

<212> DNA

<213> Homo sapiens

<400> 4151

ttatatTTTT tttttttttt tttttttttt cacggacaga cagggtcggt tgtcacagca  
 60

gagaagcacc tcacggctcc tacccgcact catcgcgac agtgccctgca ggggagcgg  
 120  
 cgcgagcacc ctccccagat gaaaacacca gcaccaggag gtggggccgta gccaggctg  
 180  
 agggaggagg ctgggggctg gggctcaggg cccccccgg gccacagcgc caccctgagt  
 240  
 ggccctgaaa atagtgcaca gtgctgggta ctgccccggc tggaggcacc tagttgttga  
 300  
 gcattccggc cacaggccac ccgctggccc ttccttgggtg tggcacgaga ccacgggcac  
 360  
 ttgcaggagc tccctgcâtg ctgttttgtg ctttgggtctc agggagcacc ctctacctc  
 420  
 ggggtcccag agtgggcagc cgggcagggtg tgaacagtgt gacaagggtta ccgtggggca  
 480  
 cctggtagtg ccaaccaga ggggcagccg gtgctcctgg tgggtgtggca gcaacagtta  
 540  
 caaactcacc ccaagtccaa accccagaaa tctgtttct ctggccctcc ggggtccagaa  
 600  
 tgccctgcac tgcctcctgg cctcaggggc tgctgcgggtg gtgggaaggc tgcccagcag  
 660  
 tgaggaaggc gagtgcaggg gctgcggccg cggtcagaga aggagagaca ccagcagagg  
 720  
 acgcgaagct ggaccggcca ggttcagagc ccgcctcgggt tgcctccaat cagaatctgc  
 780  
 tttgtgctcc acggcctcca agcactttca tgagcggttct gctcctacgt ggccagggtcc  
 840  
 taccttcctt gacggctctg gccaggccag ctcggtttcc ctctaacca tgaggcctgg  
 900  
 gggggctgtg acagaggctg gaaccgcggc cagagcccag gggcaggccc gcctggctac  
 960  
 agcaggatga ggctgggggtg ggcagctgc cggtagacct gtagcagcct ctgggcgggtg  
 1020  
 gcacaggagc tggcctcât cctcgtgcag agccggctgc gcagggtctg cacctcccgc  
 1080  
 agcagtgtct cgtggttggc gtggatctgg cggagggtact gcacacggag atcaggagcg  
 1140  
 ctggagccct gggcggcctg ctctgtcacc atcgtctgca tgcgcccgc aacggcatgg  
 1200  
 tgcgccctgc aaatgtcggc cagagaggag ctttccactt gaatctccac ggctggatg  
 1260  
 gcgctgctgg gcacaggctg gtcattggcca cctctcggac gatgagggtga acgttggcgc  
 1320  
 catcaggggc cactccctgg atggaagata gtgctcgggc cctcacgacg tc  
 1372

&lt;210&gt; 4152

&lt;211&gt; 97

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4152

Met Pro Cys Thr Ala Ser Trp Pro Gln Gly Leu Leu Arg Trp Trp Glu  
 1 5 10 15  
 Gly Cys Pro Ala Val Arg Lys Ala Ser Ala Gly Ala Ala Ala Val

```

      20      25      30
Arg Glu Gly Glu Thr Pro Ala Glu Asp Ala Lys Leu Asp Arg Pro Gly
      35      40      45
Ser Glu Pro Ala Ser Val Ala Pro Asn Gln Asn Leu Leu Cys Ala Pro
      50      55      60
Arg Pro Pro Ser Thr Phe Met Ser Val Leu Leu Leu Arg Gly Gln Val
      65      70      75      80
Leu Pro Ser Leu Thr Ala Leu Ala Arg Pro Ala Arg Phe Pro Ser Asn
      85      90      95
Pro

```

&lt;210&gt; 4153

&lt;211&gt; 395

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4153

```

tgatcagacc tgagtgaaca gaaggaaaga gcattttacc gatggtatca actgcttggg
60
aaatcctccg attggcaaga aaggctttga tttcctcttt tatcacactg ctgtccctcc
120
tcattaattc ttccacttta tcatttacat ctaggtcctc ttctgaggct tcaaaactgt
180
atgacctctg acccatgctg tttgcatgga agcgagttgg tgacatcttt ccattggatg
240
tagataatcg ctcattattc tccctcccat tttgattggt agtgcaaggc tgtggggaag
300
tatcataact gttgctaggt gacggggaca ttcccgaatg ctgcgtctgt gtggaagctg
360
tagctgtaga ggaagatgct gggacattgt tagtn
395

```

&lt;210&gt; 4154

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4154

```

Met Ser Pro Ser Pro Ser Asn Ser Tyr Asp Thr Ser Pro Gln Pro Cys
1      5      10      15
Thr Thr Asn Gln Asn Gly Arg Glu Asn Asn Glu Arg Leu Ser Thr Ser
      20      25      30
Asn Gly Lys Met Ser Pro Thr Arg Phe His Ala Asn Ser Met Gly Gln
      35      40      45
Arg Ser Tyr Ser Phe Glu Ala Ser Glu Glu Asp Leu Asp Val Asn Asp
      50      55      60
Lys Val Glu Glu Leu Met Arg Arg Asp Ser Ser Val Ile Lys Glu Glu
      65      70      75      80
Ile Lys Ala Phe Leu Ala Asn Arg Arg Ile Ser Gln Ala Val Asp Thr
      85      90      95
Ile Gly Lys Met Leu Phe Pro Ser Val His Ser Gly Leu Ile
      100      105      110

```

<210> 4155

<211> 1191

<212> DNA

<213> Homo sapiens

<400> 4155

aggcccgagc cgcagggaaa gcggcgcggg ccgggcgggg cgcggcgccc agagctcagg  
60  
gggagacaaa ggggaccggt tcctctctag gcgccaagat gtggatacag gttcgcacca  
120  
ttgatggctc caagacgtgc accattgagg acgtgtctcg caaagccacg attgaggagc  
180  
tgcgcgagcg ggtgtgggcg ctgttcgacg tgcggcccgga atgccagcgc ctcttctacc  
240  
ggggcaagca gttggaaaat ggatatacct tatttgatta tgatgttggg ctgaatgata  
300  
taattcagct gctagttcgc ccagaccctg atcatcttcc tggcacatct acacagattg  
360  
aggctaaacc ctgttctaata agtccaccta aagtaaagaa agctccgagg gtaggacctt  
420  
ccaatcagcc atctacatca gctcgtgccc gtcttattga tcctggcttt ggaatatata  
480  
agatacccag aaagcggtag tctagaaatg aatgtcaagg atcttagacc acgagctaga  
540  
accattttga aatggaatga actaaatgtt ggtgatgtgg taatgggtta ttataatgta  
600  
gaaagtctctg gacaaagagg attctgggtt gatgcagaaa ttaccacatt gaagacaatc  
660  
tcaaggacca aaaaagaact tcgtgtgaaa attttcctgg ggggttctga aggaacatta  
720  
aatgactgca agataatatc tgtagatgaa atcttcaaga ttgagagacc tggagcccat  
780  
cccctttcat ttgcagatgg aaagttttta aggcgaaatg accctgaatg tgacctgtgt  
840  
ggtggagacc cagaaaagaa atgtcattct tgctcctgtc gtgtatgtgg tgggaaacat  
900  
gaacccaaca tgcagcttct gtgtgatgaa tgtaatgtgg cttatcatat ttactgtctg  
960  
aatccacctt tggataaagt ccagaagag gaatactggt attgtccttc ttgtaaaact  
1020  
gattccagtg aagttgtaaa ggctggtgaa agactcaaga tgagtaaaaa gaaagcaaag  
1080  
atgccgtcag ctagtactga aagccgaaga gactgaggca ggggagggga ggggagggaa  
1140  
tgaggcagct ctaggatcta tactgtagct aataaaatgt aaaaacacct g  
1191

<210> 4156

<211> 233

<212> PRT

<213> Homo sapiens

<400> 4156

Asp Leu Pro Ile Ser His Leu His Gln Leu Val Pro Val Leu Leu Ile

1	5	10	15
Leu Ala Leu Glu Tyr Ile Arg Tyr Pro Glu Ser Gly Thr Leu Glu Met			
20	25	30	
Asn Val Lys Asp Leu Arg Pro Arg Ala Arg Thr Ile Leu Lys Trp Asn			
35	40	45	
Glu Leu Asn Val Gly Asp Val Val Met Val Asn Tyr Asn Val Glu Ser			
50	55	60	
Pro Gly Gln Arg Gly Phe Trp Phe Asp Ala Glu Ile Thr Thr Leu Lys			
65	70	75	80
Thr Ile Ser Arg Thr Lys Lys Glu Leu Arg Val Lys Ile Phe Leu Gly			
85	90	95	
Gly Ser Glu Gly Thr Leu Asn Asp Cys Lys Ile Ile Ser Val Asp Glu			
100	105	110	
Ile Phe Lys Ile Glu Arg Pro Gly Ala His Pro Leu Ser Phe Ala Asp			
115	120	125	
Gly Lys Phe Leu Arg Arg Asn Asp Pro Glu Cys Asp Leu Cys Gly Gly			
130	135	140	
Asp Pro Glu Lys Lys Cys His Ser Cys Ser Cys Arg Val Cys Gly Gly			
145	150	155	160
Lys His Glu Pro Asn Met Gln Leu Leu Cys Asp Glu Cys Asn Val Ala			
165	170	175	
Tyr His Ile Tyr Cys Leu Asn Pro Pro Leu Asp Lys Val Pro Glu Glu			
180	185	190	
Glu Tyr Trp Tyr Cys Pro Ser Cys Lys Thr Asp Ser Ser Glu Val Val			
195	200	205	
Lys Ala Gly Glu Arg Leu Lys Met Ser Lys Lys Lys Ala Lys Met Pro			
210	215	220	
Ser Ala Ser Thr Glu Ser Arg Arg Asp			
225	230		

&lt;210&gt; 4157

&lt;211&gt; 3460

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4157

cattagtatc cgcagagatt cgaggacatg ccgttgacct tggtacagga ctggtgtcgg  
60  
ggggaacacc tgaacacccg gaggtgcatg ctcacacctg ggatccccga ggactgtggc  
120  
gaggatgagt ttgaggagac actccaggag gcttgacaggc acctgggcag atacaggggtg  
180  
attggcagga tgtttaggag ggaggagaac gccagggcga ttctactgga gctggcacaa  
240  
gatatcgact atgctttgct cccaagggaa ataccaggaa agggggggcc ctgggaagtg  
300  
attgtaaaac cccgtaactc agatggggaa tttctcaaca gactgaaccg cttcttagag  
360  
gaggagagggc ggaccgtgtc agatatgaac cgagtcctcg ggtcggacac caattgttcg  
420  
gctccaagag tgactatata accagagttc tggacctggg cccagactct gggggcagca  
480  
gtgcagcctc tgctagaaca aatgttgtac cgagaactaa gagtgttttc tgggaacacc  
540

atatccatcc caggtgcact ggcctttgat gcctggcttg agcacaccac tgagatgcta  
600  
cagatgtggc aggtgcccga gggggaaaag aggcggaggc tgatggaatg cttacggggc  
660  
cctgctctcc aggtggtcag tgggctccgg gccagcaatg cttccataac tgtggaggag  
720  
tgcctggctg ccttgacgca ggtgttcgga cctgtggaga gccataaaat tgcccagggtg  
780  
aagttgtgta aagcctatca ggaggcagga gagaaagtat ctagctttgt gttacgtttg  
840  
gaaccctgc tccaaagagc tgtagaaaac aatgtggtat cacgtagaaa cgtgaatcag  
900  
actcgctga aacgagtctt aagtggggcc acccttcctg acaaactccg agataagctt  
960  
aagctgatga aacagcgaag gaagcctcct ggtttcctgg ccctggtgaa gctcctgcgt  
1020  
gaggaggagg aatgggaggc cactttaggt ccagataggg agagtctgga ggggctggaa  
1080  
gtagcccaa ggccacctgc caggatcact ggggttgagg cagtacctct ccctgcctct  
1140  
ggcaacagtt ttgatgcgag gccttcccag ggctaccggc gccggagggg cagaggccaa  
1200  
caccgaaggg gtggtgtggc aagggtggc tctcgaggct caagaaaacg gaaacgccac  
1260  
acattctgct atagctgtgg ggaagacggc cacatcaggg tacagtgcac caaccctcc  
1320  
aacctgctct tggtaaagca gaagaaacag gctgcagttg agtcgggaaa cgggaactgg  
1380  
gcttgggaca agagccatcc caagtccaag gccaaagtagg ctcgggagaa cagggaaca  
1440  
tttcctacca cagcccaagg agacaaaaga gatattggga ggaggggaaa gagaagccca  
1500  
gacaaacagc agatgagttg agtggggcag agggacaggg cagccagacc aaggccaagc  
1560  
cttctcacc ttggccagct ggaagggact ttcagcaacc aagaccacct ggcaacaggc  
1620  
tcagtggggg tcagggtccag gtccccgaag aggtgctgga gaggaagca gggagccact  
1680  
gcatccagca catggggtgc ctgggcctca gatggggacc ccaaagaagc agaagctgaa  
1740  
gaaggtacgg ctgggggttc tgtcctgctc atccaaccac ccctaaatac ccaccctgtg  
1800  
gactttgagc tgaacatgcc cactggcccc caggccacat gggacctgga ggagcctacc  
1860  
tggggcctgc ccctgccagc aggtgccagg gctggtgagg aagagctggg gggcagaggt  
1920  
aaagccctgc aggggaggcc acagggtcca tcccgctctc aggatcatct aactgcact  
1980  
aggggagccc caggaaggca gcaccctgga ggccctgtgc cagtgaggac aggagaccct  
2040  
aaggccccgg gagccagtg ccagccagag gttgtgcagg caaggagacc aaagattgat  
2100  
gagaagacc ccagcagggg tactgggtac ccggcaggcc agtgccctca cagttgactt  
2160

ggaccagggg ggctgtgaag ggaagtcttt gttgcaaagg aggaggagga aaagggagga  
 2220  
 cttggtaggg ttttgtttct tctgcttggt tctgtacagg gccaccagac tcctggagag  
 2280  
 atcaagcaag gagaacctgg ggctgccatg gccaaagcaa ctcaacagat gccaatgcca  
 2340  
 attccaaggc cagccacaac cctgccacct tggggaatcc agcctggagg catcccctaa  
 2400  
 gcagccagcc atggcctggg tggaggcacc tgaagacgtc tgtcccaaac tccccagcc  
 2460  
 ctgagctggg agatgacagg gggaaagagg ccctctcaag ggtgccagat gcctgggtct  
 2520  
 cccaagaggg gtcccccaac tcaccgttcc cgggacaggc tgccccctgt tccaggaagc  
 2580  
 tcctcctcac ctgtgtaggc ccctgtagtg acccacgct ccagcagacg cccaccaccc  
 2640  
 gctagccgtt gttcctgtgc aaagtagtgt gctatgcacc caccaggtg gccgcctctg  
 2700  
 ggcccaaggc acatgctgtg agcttctctg gagcccaggc tctgctcact gctgtcccg  
 2760  
 gtcattgagc ccacctctgc tttccctgtg tagatctagg ccagtggctg cttgtttttg  
 2820  
 tggagctgtg tgtgttcttc tctgagcagc tcctccccgg agtccccag cacagtccca  
 2880  
 ggagatgaca ggaaggaagg caccagggca aggcggacgc tcaccctgtg accacgatgg  
 2940  
 tgaccgtgac tgtgggagga agaactggac ccaggacgga gtggggctgc cctgtctgag  
 3000  
 tttccccagt gaactttgtg ctttgggtgt ccaccctgt tgttactcat gactcagttt  
 3060  
 ccttgacctg gtagggtgtt ccctgctgtg tttccagtg tcctgtgact gtcctgtgctg  
 3120  
 ggccataggg cagggccctg tcccagcaga tgggcttggg agggggctcc ctaaagccag  
 3180  
 tggacactgc cagagtctac cttcctggca agaggcagac cccggggccc tcaggaagga  
 3240  
 gggagtggc agcgggggct gcagcaggag taggagcaga tgaggcgtct tgccaggaac  
 3300  
 ctcaggagga gggggcccgg gacctgtgtg ggacctgtgt cctgtgggtg ccgtttgcag  
 3360  
 tttctctctg tggtgtgatt cccttctctt caacggtttc agtacgtgtt tctcttcaat  
 3420  
 aaacttcatt cagtgttcca aaaaaaaaaa aaaaaaaaaa  
 3460

&lt;210&gt; 4158

&lt;211&gt; 463

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4158

Met Pro Leu Thr Leu Leu Gln Asp Trp Cys Arg Gly Glu His Leu Asn  
 1 5 10 15  
 Thr Arg Arg Cys Met Leu Ile Leu Gly Ile Pro Glu Asp Cys Gly Glu

20	25	30
Asp Glu Phe	Glu Thr Leu Gln Glu Ala Cys Arg	His Leu Gly Arg
35	40	45
Tyr Arg Val	Ile Gly Arg Met Phe Arg Arg Glu Glu Asn Ala Gln Ala	
50	55	60
Ile Leu Leu	Glu Leu Ala Gln Asp Ile Asp Tyr Ala Leu Leu Pro Arg	
65	70	75
Glu Ile Pro	Gly Lys Gly Gly Pro Trp Glu Val Ile Val Lys Pro Arg	
85	90	95
Asn Ser Asp	Gly Glu Phe Leu Asn Arg Leu Asn Arg Phe Leu Glu Glu	
100	105	110
Glu Arg Arg	Thr Val Ser Asp Met Asn Arg Val Leu Gly Ser Asp Thr	
115	120	125
Asn Cys Ser	Ala Pro Arg Val Thr Ile Ser Pro Glu Phe Trp Thr Trp	
130	135	140
Ala Gln Thr	Leu Gly Ala Ala Val Gln Pro Leu Leu Glu Gln Met Leu	
145	150	155
Tyr Arg Glu	Leu Arg Val Phe Ser Gly Asn Thr Ile Ser Ile Pro Gly	
165	170	175
Ala Leu Ala	Phe Asp Ala Trp Leu Glu His Thr Thr Glu Met Leu Gln	
180	185	190
Met Trp Gln	Val Pro Glu Gly Glu Lys Arg Arg Arg Leu Met Glu Cys	
195	200	205
Leu Arg Gly	Pro Ala Leu Gln Val Val Ser Gly Leu Arg Ala Ser Asn	
210	215	220
Ala Ser Ile	Thr Val Glu Glu Cys Leu Ala Ala Leu Gln Gln Val Phe	
225	230	235
Gly Pro Val	Glu Ser His Lys Ile Ala Gln Val Lys Leu Cys Lys Ala	
245	250	255
Tyr Gln Glu	Ala Gly Glu Lys Val Ser Ser Phe Val Leu Arg Leu Glu	
260	265	270
Pro Leu Leu	Gln Arg Ala Val Glu Asn Asn Val Val Ser Arg Arg Asn	
275	280	285
Val Asn Gln	Thr Arg Leu Lys Arg Val Leu Ser Gly Ala Thr Leu Pro	
290	295	300
Asp Lys Leu	Arg Asp Lys Leu Lys Leu Met Lys Gln Arg Arg Lys Pro	
305	310	315
Pro Gly Phe	Leu Ala Leu Val Lys Leu Leu Arg Glu Glu Glu Glu Trp	
325	330	335
Glu Ala Thr	Leu Gly Pro Asp Arg Glu Ser Leu Glu Gly Leu Glu Val	
340	345	350
Ala Pro Arg	Pro Pro Ala Arg Ile Thr Gly Val Gly Ala Val Pro Leu	
355	360	365
Pro Ala Ser	Gly Asn Ser Phe Asp Ala Arg Pro Ser Gln Gly Tyr Arg	
370	375	380
Arg Arg Arg	Gly Arg Gly Gln His Arg Arg Gly Gly Val Ala Arg Ala	
385	390	395
Gly Ser Arg	Gly Ser Arg Lys Arg Lys Arg His Thr Phe Cys Tyr Ser	
405	410	415
Cys Gly Glu	Asp Gly His Ile Arg Val Gln Cys Ile Asn Pro Ser Asn	
420	425	430
Leu Leu Leu	Val Lys Gln Lys Lys Gln Ala Ala Val Glu Ser Gly Asn	
435	440	445
Gly Asn Trp	Ala Trp Asp Lys Ser His Pro Lys Ser Lys Ala Lys	



450 455 460

<210> 4159  
<211> 1491  
<212> DNA  
<213> Homo sapiens

<400> 4159  
catcctagtc gtgcttggtg tgtgtaacct ggattgtgtg ctgggcatag tagcaagcac  
60  
aagtacagtt ctttatgtgt actttgtaag gcagaaatat gtggccagtt ttaggggtcca  
120  
ggagcaccgt ggagaatgga gagttttctg ttgctttcag tcgttgccct taccatcct  
180  
tgcctacccc tggttattgc taaaatgggt aactgacaat aaagagatta gaagtgggtt  
240  
ataggaagcg aggtgggttc tagatgcaaa actaatcccc tgtcccatgt gaaattgttt  
300  
ttgtgatttt gtggcggttg ggatgacaga tgagacttga ggaatgcaaa tgtgctaatt  
360  
tcccacttga tgtattggaa agtgtggagc atgtatacat cacctgggta atttcatttg  
420  
gcactatttt cttccggtca gctcactgca tttagacagaa caaatactga gtctgcaaag  
480  
attcgagcaa tagaaaagtc tgtggtgcct tgggtcaacg accaggatgt ccctttctgt  
540  
ccagactgtg ggaataagtt cagcatccgg aaccgcccgc accactgccg cctctgcccc  
600  
tctattatgt gcaagaagtg tatggagctc atcagccttc ccttgcaaaa caagctcacc  
660  
agtgccagca aggagtcctt gagcaccac accagcccca gccagtcacc caacagtgtc  
720  
catggctccc gccgaggcag catcagcagc atgagcagtg tcagctcggt cctggatgag  
780  
aaggacgatg accggatccg ctgctgtaca cactgcaagg acacgctgct caagagagag  
840  
cagcagattg atgagaagga gcacacacct gacatcgtga agctctacga gaaattacga  
900  
ctttgcatgg agaaagttga ccagaaagct ccagaatata tcaggatggc agcatcatta  
960  
aatgctgggg agacaacct cagtctggaa catgccagtg accttcgagt ggaagtgcag  
1020  
aaagtgtatg agctgataga cgctttaagt aagaagatct taaccttggg cttgaaccag  
1080  
gacctccac cacatccaag caatttgctg ctgcagagaa tgatcagata ctcagctaca  
1140  
ctttttgtgc agaaaagtt gcttggtttg atgtcactgc caacaaaga acagtttgag  
1200  
gaactgaaaa agaaaaggaa ggaggaaatg gagaggaaga gggccgtgga gagacaagct  
1260  
gccctggagt ccagcgaag gcttgaggaa aggcagagtg gcctggcttc tcgagcggcc  
1320  
aacggggagg tggcatctct ccgcaggggc cctgccccct tgaaaaaggc tgagggtctg  
1380

ctccactgt caggaggtca ggggcagagt gaggactcag acccgctcct ccagcagatc  
 1440  
 cacaacatca catcattcat caggcaggcc aaggccgcgg ggccgcatgg g  
 1491

<210> 4160

<211> 360

<212> PRT

<213> Homo sapiens

<400> 4160

Phe	His	Leu	Ala	Leu	Phe	Ser	Ser	Gly	Gln	Leu	Thr	Ala	Phe	Asp	Arg
1				5					10					15	
Thr	Asn	Thr	Glu	Ser	Ala	Lys	Ile	Arg	Ala	Ile	Glu	Lys	Ser	Val	Val
			20					25					30		
Pro	Trp	Val	Asn	Asp	Gln	Asp	Val	Pro	Phe	Cys	Pro	Asp	Cys	Gly	Asn
		35					40					45			
Lys	Phe	Ser	Ile	Arg	Asn	Arg	Arg	His	His	Cys	Arg	Leu	Cys	Gly	Ser
	50					55					60				
Ile	Met	Cys	Lys	Lys	Cys	Met	Glu	Leu	Ile	Ser	Leu	Pro	Leu	Ala	Asn
65					70					75					80
Lys	Leu	Thr	Ser	Ala	Ser	Lys	Glu	Ser	Leu	Ser	Thr	His	Thr	Ser	Pro
				85					90					95	
Ser	Gln	Ser	Pro	Asn	Ser	Val	His	Gly	Ser	Arg	Arg	Gly	Ser	Ile	Ser
			100					105					110		
Ser	Met	Ser	Ser	Val	Ser	Ser	Val	Leu	Asp	Glu	Lys	Asp	Asp	Asp	Arg
		115					120					125			
Ile	Arg	Cys	Cys	Thr	His	Cys	Lys	Asp	Thr	Leu	Leu	Lys	Arg	Glu	Gln
	130					135					140				
Gln	Ile	Asp	Glu	Lys	Glu	His	Thr	Pro	Asp	Ile	Val	Lys	Leu	Tyr	Glu
145					150					155					160
Lys	Leu	Arg	Leu	Cys	Met	Glu	Lys	Val	Asp	Gln	Lys	Ala	Pro	Glu	Tyr
			165					170						175	
Ile	Arg	Met	Ala	Ala	Ser	Leu	Asn	Ala	Gly	Glu	Thr	Thr	Tyr	Ser	Leu
		180						185					190		
Glu	His	Ala	Ser	Asp	Leu	Arg	Val	Glu	Val	Gln	Lys	Val	Tyr	Glu	Leu
	195						200					205			
Ile	Asp	Ala	Leu	Ser	Lys	Lys	Ile	Leu	Thr	Leu	Gly	Leu	Asn	Gln	Asp
	210					215					220				
Pro	Pro	Pro	His	Pro	Ser	Asn	Leu	Arg	Leu	Gln	Arg	Met	Ile	Arg	Tyr
225					230					235				240	
Ser	Ala	Thr	Leu	Phe	Val	Gln	Glu	Lys	Leu	Leu	Gly	Leu	Met	Ser	Leu
			245						250				255		
Pro	Thr	Lys	Glu	Gln	Phe	Glu	Glu	Leu	Lys	Lys	Lys	Arg	Lys	Glu	Glu
		260					265					270			
Met	Glu	Arg	Lys	Arg	Ala	Val	Glu	Arg	Gln	Ala	Ala	Leu	Glu	Ser	Gln
	275						280					285			
Arg	Arg	Leu	Glu	Glu	Arg	Gln	Ser	Gly	Leu	Ala	Ser	Arg	Ala	Ala	Asn
	290					295					300				
Gly	Glu	Val	Ala	Ser	Leu	Arg	Arg	Gly	Pro	Ala	Pro	Leu	Lys	Lys	Ala
305					310					315					320
Glu	Gly	Trp	Leu	Pro	Leu	Ser	Gly	Gly	Gln	Gly	Gln	Ser	Glu	Asp	Ser
			325					330					335		
Asp	Pro	Leu	Leu	Gln	Gln	Ile	His	Asn	Ile	Thr	Ser	Phe	Ile	Arg	Gln

340 345 350  
 Ala Lys Ala Ala Gly Pro His Gly  
 355 360  
 <210> 4161  
 <211> 3316  
 <212> DNA  
 <213> Homo sapiens  
 <400> 4161  
 ctctctctcc gtctctctct ctctctctca tctgctgtgg ttatggcctg tcgctggagc  
 60  
 acaaaagagt ctccgcggtg gaggtctgcg ttgctcttgc ttttctcgc tggggtgtac  
 120  
 ggaaatggtg ctcttgacga acattctgaa aatgtgcata ttccaggagt gtcaactgct  
 180  
 tgtggagaga ctccagagca aatacgagca ccaagtggca taatcacaag cccaggctgg  
 240  
 ccttctgaat atcctgcaaa aatcaactgt agctggttca taagggcaaa cccaggcgaa  
 300  
 atcattacta taagttttca ggattttgat attcaaggat ccagaagggt caatttggac  
 360  
 tggttgacaa tagaaacata caagaatatt gaaagttaca gagcttgtgg ttccacaatt  
 420  
 ccacctccgt atatctcttc acaagaccac atctggatta ggtttcattc ggatgacaac  
 480  
 atctctagaa agggtttcag actggcatat ttttcagga aatctgagga accaaattgt  
 540  
 gcttgtgatc agtttcgttg tggtaatgga aagtgtatac cagaagcctg gaaatgtaat  
 600  
 aacatggatg aatgtggaga tagttccgat gaagagatct gtgccaaaga agcaaactct  
 660  
 ccaactgctg ctgcttttca accctgtgct tacaaccagt tccagtgttt atcccgtttt  
 720  
 accaaagtgt acacttgcct cccgaatct ttaaaatgtg atgggaacat tgactgcctt  
 780  
 gacctaggag atgagataga ctgtgatgtg ccaacatgtg ggcaatggct aaaatatttt  
 840  
 tatggtactt ttaattctcc caattatcca gacttttata ctctggaag caattgcacc  
 900  
 tggttaatag aacttggtga tcaccgtaaa gtcattttac gcttactga ctttaaactt  
 960  
 gatggtactg gttatggtga ttatgtcaaa atatatgatg gattagagga gaatccacac  
 1020  
 aagcttttgc gtgtgttgac agcttttgat tctcatgcac ctcttacagt tgtttcttct  
 1080  
 tctggacaga taagggtaaa tttttgtgct gataaagtga atgctgcaag gggatttaat  
 1140  
 gctacttacc aagtagatgg gttctgtttg ccatgggaaa taccctgtgg aggttaactgg  
 1200  
 ggggtgttata ctgagcagca gcgttgatg gggatttggc attgccccaa tggaagggtg  
 1260  
 gaaaccaatt gtaccatgtg ccagaaggaa gaatttccat gttcccgaag tgggtgtctgt  
 1320

tatcctcggt ctgatcgctg caactaccag aatcattgcc caaatggctc agatgaaaaa  
1380  
aactgctttt ttgccaacc aggaaatttc cattgtaaaa acaatcggtg tgtgtttgaa  
1440  
agttgggtgt gtgattctca agatgactgt ggtgatggca gcgatgaaga aaattgcccc  
1500  
gtaatcggtc ctacaagagt catcactgct gccgtcatag ggagcctcat ctgtggcctg  
1560  
ttactcgta tagcattggg atgtacttgt aagctttatt ctctgagaat gtttgaaaga  
1620  
agatcatttg aaacacagtt gtcaagagtg gaagcagaat tgtaagaag agaagctcct  
1680  
ccctcgatg gacaattgat tgctcagggg ttaattccac cagttgaaga ttttctgtt  
1740  
tgttcaccta atcaggcttc tgttttggaa aatctgaggg tagcggtagc atctcagctt  
1800  
ggatttactt cagtcaggct tcctatggca ggcagatcaa gcaacatttg gaaccgtatt  
1860  
tttaattttg caagatcacg tcattctggg tcattggctt tggctcagc agatggagat  
1920  
gaggttgctc ctagtacagag taccagtaga gaacctgaga gaaatcatac tcacagaagt  
1980  
ttgttttccg tggagtctga tgatacagac acagaaaatg agagaagaga tatggcagga  
2040  
gcatctggtg gggttgcagc tcctttgctt caaaaagtcc ctcccacaac ggcagtagaa  
2100  
gcgacagtag gagcatgtgc aagttcctca actcagagta cccgaggtgg tcatgcagat  
2160  
aatggaaggg atgtgacaag tgtggaaccc ccaagtgtga gtccagcacg tcaccagctt  
2220  
acaagtgcac tcagtcgtat gactcagggg ctacgctggg tacgttttac attaggacga  
2280  
tcaagttccc taagtcagaa ccagagtcct ttgagacaac ttgataatgg ggtaagtgga  
2340  
agagaagatg atgatgatgt tgaaatgcta attccaattt ctgatggatc ttcagacttt  
2400  
gatgtgaatg actgctccag acctcttctt gatcttgctt cagatcaagg acaagggtt  
2460  
agacaacat ataatgcaac aaatcctgga gtaaggccaa gtaatcgaga tggccctgt  
2520  
gagcgtgtg gtattgtcca cactgccag ataccagaca ctgcttaga agtaacactg  
2580  
aaaaacgaaa cgagtgatga tgaggctttg ttactttgtt aggtacgaat cacataaggg  
2640  
agattgtata caagttggag caatatccgt ttattatttt gtaactttac agttaaacta  
2700  
gttttagttt aaaaagaaaa aatgcagggg gatttcttat tattatatgt tagcctgcat  
2760  
ggttaaattc gacaacttgt aactctatga acttagagtt tactatttta gcagctaaaa  
2820  
atgcatcaca tattgcatat tgttcaataa tggctcttct atttgtttct gattgttttc  
2880  
atcctgatac tgtagttcac tgtagaaatg tggctgctga aactcatttg attgtcattt  
2940

ttatctatcc tatgttaaatt gggttggttt tacaaaataa taccttattt taattgaaac  
 3000  
 gtttatgctt ttgccaagca catcttgtaa cttaatatag ctagatgtta aggttggttaa  
 3060  
 tgtacaaaaa aaaaaaaccc ttatactcac ctgcgttttc atttggttga catttgtcta  
 3120  
 ttattggata tcattatcat atgaacttgt cagtgggaaa caaactgtct aaaaatttat  
 3180  
 ctcttacgtt taacatacaa tcatgtgaga tttaggcaga gttcgataaa ttactggcaa  
 3240  
 aaacaaaact catttataaa gattttctaa tgttgacttt aatactctaa catggtacaa  
 3300  
 accanattggt aaaatc  
 3316

<210> 4162

<211> 859

<212> PRT

<213> Homo sapiens

<400> 4162

Met	Ala	Cys	Arg	Trp	Ser	Thr	Lys	Glu	Ser	Pro	Arg	Trp	Arg	Ser	Ala
1				5					10					15	
Leu	Leu	Leu	Leu	Phe	Leu	Ala	Gly	Val	Tyr	Gly	Asn	Gly	Ala	Leu	Ala
			20					25					30		
Glu	His	Ser	Glu	Asn	Val	His	Ile	Ser	Gly	Val	Ser	Thr	Ala	Cys	Gly
	35						40					45			
Glu	Thr	Pro	Glu	Gln	Ile	Arg	Ala	Pro	Ser	Gly	Ile	Ile	Thr	Ser	Pro
	50					55					60				
Gly	Trp	Pro	Ser	Glu	Tyr	Pro	Ala	Lys	Ile	Asn	Cys	Ser	Trp	Phe	Ile
65					70				75					80	
Arg	Ala	Asn	Pro	Gly	Glu	Ile	Ile	Thr	Ile	Ser	Phe	Gln	Asp	Phe	Asp
			85						90					95	
Ile	Gln	Gly	Ser	Arg	Arg	Cys	Asn	Leu	Asp	Trp	Leu	Thr	Ile	Glu	Thr
			100					105					110		
Tyr	Lys	Asn	Ile	Glu	Ser	Tyr	Arg	Ala	Cys	Gly	Ser	Thr	Ile	Pro	Pro
	115						120					125			
Pro	Tyr	Ile	Ser	Ser	Gln	Asp	His	Ile	Trp	Ile	Arg	Phe	His	Ser	Asp
	130					135					140				
Asp	Asn	Ile	Ser	Arg	Lys	Gly	Phe	Arg	Leu	Ala	Tyr	Phe	Ser	Gly	Lys
145					150				155					160	
Ser	Glu	Glu	Pro	Asn	Cys	Ala	Cys	Asp	Gln	Phe	Arg	Cys	Gly	Asn	Gly
			165						170					175	
Lys	Cys	Ile	Pro	Glu	Ala	Trp	Lys	Cys	Asn	Asn	Met	Asp	Glu	Cys	Gly
			180					185					190		
Asp	Ser	Ser	Asp	Glu	Glu	Ile	Cys	Ala	Lys	Glu	Ala	Asn	Pro	Pro	Thr
	195						200					205			
Ala	Ala	Ala	Phe	Gln	Pro	Cys	Ala	Tyr	Asn	Gln	Phe	Gln	Cys	Leu	Ser
	210						215				220				
Arg	Phe	Thr	Lys	Val	Tyr	Thr	Cys	Leu	Pro	Glu	Ser	Leu	Lys	Cys	Asp
225					230					235				240	
Gly	Asn	Ile	Asp	Cys	Leu	Asp	Leu	Gly	Asp	Glu	Ile	Asp	Cys	Asp	Val
			245						250					255	
Pro	Thr	Cys	Gly	Gln	Trp	Leu	Lys	Tyr	Phe	Tyr	Gly	Thr	Phe	Asn	Ser

260	265	270
Pro Asn Tyr Pro Asp Phe Tyr	Pro Pro Gly Ser Asn Cys Thr Trp Leu	
275	280	285
Ile Asp Thr Gly Asp His Arg	Lys Val Ile Leu Arg Phe Thr Asp Phe	
290	295	300
Lys Leu Asp Gly Thr Gly Tyr	Gly Asp Tyr Val Lys Ile Tyr Asp Gly	
305	310	315
Leu Glu Glu Asn Pro His Lys	Leu Leu Arg Val Leu Thr Ala Phe Asp	
325	330	335
Ser His Ala Pro Leu Thr Val	Val Ser Ser Ser Gly Gln Ile Arg Val	
340	345	350
His Phe Cys Ala Asp Lys Val	Asn Ala Ala Arg Gly Phe Asn Ala Thr	
355	360	365
Tyr Gln Val Asp Gly Phe Cys	Leu Pro Trp Glu Ile Pro Cys Gly Gly	
370	375	380
Asn Trp Gly Cys Tyr Thr Glu	Gln Gln Arg Cys Asp Gly Tyr Trp His	
385	390	395
Cys Pro Asn Gly Arg Asp Glu	Thr Asn Cys Thr Met Cys Gln Lys Glu	
405	410	415
Glu Phe Pro Cys Ser Arg Asn	Gly Val Cys Tyr Pro Arg Ser Asp Arg	
420	425	430
Cys Asn Tyr Gln Asn His Cys	Pro Asn Gly Ser Asp Glu Lys Asn Cys	
435	440	445
Phe Phe Cys Gln Pro Gly Asn	Phe His Cys Lys Asn Asn Arg Cys Val	
450	455	460
Phe Glu Ser Trp Val Cys Asp	Ser Gln Asp Asp Cys Gly Asp Gly Ser	
465	470	475
Asp Glu Glu Asn Cys Pro Val	Ile Val Pro Thr Arg Val Ile Thr Ala	
485	490	495
Ala Val Ile Gly Ser Leu Ile	Cys Gly Leu Leu Leu Val Ile Ala Leu	
500	505	510
Gly Cys Thr Cys Lys Leu Tyr	Ser Leu Arg Met Phe Glu Arg Arg Ser	
515	520	525
Phe Glu Thr Gln Leu Ser Arg	Val Glu Ala Glu Leu Leu Arg Arg Glu	
530	535	540
Ala Pro Pro Ser Tyr Gly Gln	Leu Ile Ala Gln Gly Leu Ile Pro Pro	
545	550	555
Val Glu Asp Phe Pro Val Cys	Ser Pro Asn Gln Ala Ser Val Leu Glu	
565	570	575
Asn Leu Arg Leu Ala Val Arg	Ser Gln Leu Gly Phe Thr Ser Val Arg	
580	585	590
Leu Pro Met Ala Gly Arg Ser	Ser Asn Ile Trp Asn Arg Ile Phe Asn	
595	600	605
Phe Ala Arg Ser Arg His Ser	Gly Ser Leu Ala Leu Val Ser Ala Asp	
610	615	620
Gly Asp Glu Val Val Pro Ser	Gln Ser Thr Ser Arg Glu Pro Glu Arg	
625	630	635
Asn His Thr His Arg Ser Leu	Phe Ser Val Glu Ser Asp Asp Thr Asp	
645	650	655
Thr Glu Asn Glu Arg Arg Asp	Met Ala Gly Ala Ser Gly Gly Val Ala	
660	665	670
Ala Pro Leu Pro Gln Lys Val	Pro Thr Thr Ala Val Glu Ala Thr	
675	680	685
Val Gly Ala Cys Ala Ser Ser	Ser Thr Gln Ser Thr Arg Gly Gly His	

690	695	700
Ala Asp Asn Gly Arg Asp Val Thr Ser Val Glu Pro Pro Ser Val Ser		
705	710	715
Pro Ala Arg His Gln Leu Thr Ser Ala Leu Ser Arg Met Thr Gln Gly		
	725	730
Leu Arg Trp Val Arg Phe Thr Leu Gly Arg Ser Ser Ser Leu Ser Gln		
	740	745
Asn Gln Ser Pro Leu Arg Gln Leu Asp Asn Gly Val Ser Gly Arg Glu		
	755	760
Asp Asp Asp Asp Val Glu Met Leu Ile Pro Ile Ser Asp Gly Ser Ser		
	770	775
Asp Phe Asp Val Asn Asp Cys Ser Arg Pro Leu Leu Asp Leu Ala Ser		
785	790	795
Asp Gln Gly Gln Gly Leu Arg Gln Pro Tyr Asn Ala Thr Asn Pro Gly		
	805	810
Val Arg Pro Ser Asn Arg Asp Gly Pro Cys Glu Arg Cys Gly Ile Val		
	820	825
His Thr Ala Gln Ile Pro Asp Thr Cys Leu Glu Val Thr Leu Lys Asn		
	835	840
Glu Thr Ser Asp Asp Glu Ala Leu Leu Leu Cys		
	850	855

&lt;210&gt; 4163

&lt;211&gt; 568

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4163

```

ntctagaacc ttctcttggt gccagggcag gctcaggaca ggctgccgtc agccaggccc
60
actccagggc tcccaggtca gaggggccat ggtagcttac aatgcggcct gcaggaccca
120
gcaggcagcc ggcccccttc ccctcccttt tcccgcctgc gctctgaagg ctccaagtca
180
gtgttgcccc agtgggtctg ggggatgaag gggatcccgg tcccatctgg acaccctcaa
240
gctgatggac gcagagctct ggtgcgggca gtgggtcacc cccaggacct gctgaccgaa
300
gectctcccc gctgcccggc aggcccttca ccgctgagat ctaccggcag aaagcctccg
360
ggccccccaa gaggaggtga tttagctgcc ccagttttgt ttaaggcctg ggccacctcc
420
ttggcttgcc ccaagtggca ggccttgccg agggcgagaa tgggtgcctgt tgttcagggc
480
tcgccccggg cgtgggctgc cccagtgcct tggaacctgc tgccttgggg accctggacg
540
tgccgacata tggccattga gctccaac
568

```

&lt;210&gt; 4164

&lt;211&gt; 187

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4164

Asn Leu Ser Leu Trp Pro Gly Gln Ala Gln Asp Arg Leu Pro Ser Ala  
 1 5 10 15  
 Arg Pro Thr Pro Gly Leu Pro Gly Gln Ser Gly His Gly Ser Leu Gln  
 20 25 30  
 Cys Gly Leu Gln Asp Pro Ala Gly Ser Arg Pro Leu Ser Pro Pro Phe  
 35 40 45  
 Ser Arg Leu Arg Ser Glu Gly Ser Lys Ser Val Leu Pro Gln Trp Leu  
 50 55 60  
 Trp Gly Met Lys Gly Ile Pro Val Pro Ser Gly His Pro Gln Ala Asp  
 65 70 75 80  
 Gly Arg Arg Ala Leu Val Arg Ala Val Gly His Pro Gln Asp Leu Leu  
 85 90 95  
 Thr Glu Ala Ser Pro Arg Cys Pro Ala Gly Pro Ser Pro Leu Arg Ser  
 100 105 110  
 Thr Gly Arg Lys Pro Pro Gly Pro Pro Arg Gly Gly Asp Leu Ala Ala  
 115 120 125  
 Pro Val Leu Phe Lys Ala Trp Ala Thr Ser Leu Ala Cys Pro Lys Trp  
 130 135 140  
 Gln Ala Leu Arg Arg Ala Arg Met Val Pro Val Val Gln Gly Ser Pro  
 145 150 155 160  
 Pro Ala Trp Ala Ala Pro Val Pro Trp Asn Leu Leu Pro Trp Gly Pro  
 165 170 175  
 Trp Thr Cys Arg His Met Ala Ile Glu Leu Gln  
 180 185

&lt;210&gt; 4165

&lt;211&gt; 717

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4165

ngcgtgcagg aacgcttcgt ggctggctcc ctggctgggtg ccacagccca aaccatcatt  
 60  
 taccctatgg aggtgctgaa gacgcggctg accttgcgcc ggacgggcca gtataagggg  
 120  
 ctgctggact gcgccaggcg taccctggag agggaggggc cccgtgcctt ctaccgcggc  
 180  
 tacctcccca acgtgctggg catcatcccc tatgcgggca tcgacctggc cgtctacgag  
 240  
 actctgaaga actggtggct tcagcagtag agccacgact cggcagaccc aggcatcctc  
 300  
 gtgctcctgg cctgcggtag catatccagc acctgcggcc agatagccag ttaccgctg  
 360  
 gccctggctc ggaccgcag gcaggcaca ggatttcac atgttgccca ggctcatctc  
 420  
 gaactcgtgg ggtcaaggaa ttcgccagcc ttcagcctcc caactgctg ggattacagg  
 480  
 aagccgggtg tcatgccatg agcagcctta tggagaggac catgtggtaa ggaactcagc  
 540  
 caatagccat gtaactgagc ttggaagagg atcttgctgt cctggccaac atctcactgc  
 600  
 aattctatca gttgaattcc ctggatagtc caagctttgt ggatccctcc accagaacaa  
 660



ctggatccca gtacctgaat cctgaatctt agactcttat acttcaaaca ctgatca  
717

<210> 4166

<211> 166

<212> PRT

<213> Homo sapiens

<400> 4166

Xaa	Val	Gln	Glu	Arg	Phe	Val	Ala	Gly	Ser	Leu	Ala	Gly	Ala	Thr	Ala
1				5					10					15	
Gln	Thr	Ile	Ile	Tyr	Pro	Met	Glu	Val	Leu	Lys	Thr	Arg	Leu	Thr	Leu
		20					25						30		
Arg	Arg	Thr	Gly	Gln	Tyr	Lys	Gly	Leu	Leu	Asp	Cys	Ala	Arg	Arg	Ile
		35					40					45			
Leu	Glu	Arg	Glu	Gly	Pro	Arg	Ala	Phe	Tyr	Arg	Gly	Tyr	Leu	Pro	Asn
		50				55					60				
Val	Leu	Gly	Ile	Ile	Pro	Tyr	Ala	Gly	Ile	Asp	Leu	Ala	Val	Tyr	Glu
65					70					75					80
Thr	Leu	Lys	Asn	Trp	Trp	Leu	Gln	Gln	Tyr	Ser	His	Asp	Ser	Ala	Asp
			85						90					95	
Pro	Gly	Ile	Leu	Val	Leu	Leu	Ala	Cys	Gly	Thr	Ile	Ser	Ser	Thr	Cys
			100					105						110	
Gly	Gln	Ile	Ala	Ser	Tyr	Pro	Leu	Ala	Leu	Val	Arg	Thr	Arg	Met	Gln
		115					120						125		
Ala	Gln	Gly	Phe	His	His	Val	Ala	Gln	Ala	His	Leu	Glu	Leu	Val	Gly
		130				135					140				
Ser	Arg	Asn	Ser	Pro	Ala	Phe	Ser	Leu	Pro	Thr	Cys	Trp	Asp	Tyr	Arg
145					150					155					160
Lys	Pro	Val	Val	Met	Pro										
					165										

<210> 4167

<211> 897

<212> DNA

<213> Homo sapiens

<400> 4167

ngccggcacg ccgccagca tgggtccggga aatcaggcat ctctgggtgg gcaatttacc  
60  
cgagaacgtg cggaagaga agatcatcga gcatttcaaa cggctgggtgt gcaatggcgt  
120  
gatctcagcc caccgcaact tccgcctcct gggatcaagc aatcctcctg cttcagcctc  
180  
ctgagtagct tggactacag atatggccgc gtggaaagtg tcaaaattct tcccaagagg  
240  
ggatctgaag gaggagtggc tgcctttgtg gattttgtgg acatcaaaag tgcacagaaa  
300  
gtcacaact cggtaacaa aatgggtgac agagacctac gcacggatta taatgaacca  
360  
ggcaccatcc cgagtgtgc tcggggattg gatgatacag tttccatagc atctcgtagt  
420  
agagaggttt ctgggttcag aggaggtggt ggagggcctg cttatgggtcc cccaccgtca  
480

cttcatgcac gagaaggacg ttatgagcgg agacttgatg gggcttcaga taacagggag  
 540  
 cgtgcttatg aacatagtgc ctatggacac catgaacggg ggacgggagg atttgatcgg  
 600  
 acaagacatt acgatcagga ttactataga gatcctcgag agcggacttt acaacatggg  
 660  
 ctctattacg cttctcggag tcgaagtcca aatcgctttg atgctcatga cccccgatat  
 720  
 gaacctaggg ctccgcagca gtttacactg cccagtgtgg tacacagggg tatctacagg  
 780  
 gatgatatta cccgggaggt acgaggcaga aggccagagc ggaattacca gcacagcagg  
 840  
 agtcgggtcac cacattcatc ccagtctaga aatcagttc ctcagagact ggctagc  
 897

<210> 4168

<211> 299

<212> PRT

<213> Homo sapiens

<400> 4168

Xaa	Arg	His	Ala	Ala	Gln	His	Gly	Pro	Gly	Asn	Gln	Ala	Ser	Leu	Gly
1			5					10				15			
Gly	Gln	Phe	Thr	Arg	Glu	Arg	Ala	Gly	Arg	Glu	Asp	His	Arg	Ala	Phe
		20					25				30				
Gln	Thr	Ala	Gly	Val	Gln	Trp	Arg	Asp	Leu	Ser	Pro	Pro	Gln	Leu	Pro
	35					40					45				
Pro	Pro	Gly	Ile	Lys	Gln	Ser	Ser	Cys	Phe	Ser	Leu	Leu	Ser	Ser	Leu
	50				55						60				
Asp	Tyr	Arg	Tyr	Gly	Arg	Val	Glu	Ser	Val	Lys	Ile	Leu	Pro	Lys	Arg
65				70				75			80				
Gly	Ser	Glu	Gly	Gly	Val	Ala	Ala	Phe	Val	Asp	Phe	Val	Asp	Ile	Lys
		85						90			95				
Ser	Ala	Gln	Lys	Ala	His	Asn	Ser	Val	Asn	Lys	Met	Gly	Asp	Arg	Asp
		100						105			110				
Leu	Arg	Thr	Asp	Tyr	Asn	Glu	Pro	Gly	Thr	Ile	Pro	Ser	Ala	Ala	Arg
	115					120					125				
Gly	Leu	Asp	Asp	Thr	Val	Ser	Ile	Ala	Ser	Arg	Ser	Arg	Glu	Val	Ser
	130					135					140				
Gly	Phe	Arg	Gly	Gly	Gly	Gly	Gly	Pro	Ala	Tyr	Gly	Pro	Pro	Pro	Ser
145				150				155			160				
Leu	His	Ala	Arg	Glu	Gly	Arg	Tyr	Glu	Arg	Arg	Leu	Asp	Gly	Ala	Ser
		165						170			175				
Asp	Asn	Arg	Glu	Arg	Ala	Tyr	Glu	His	Ser	Ala	Tyr	Gly	His	His	Glu
	180							185			190				
Arg	Gly	Thr	Gly	Gly	Phe	Asp	Arg	Thr	Arg	His	Tyr	Asp	Gln	Asp	Tyr
	195						200				205				
Tyr	Arg	Asp	Pro	Arg	Glu	Arg	Thr	Leu	Gln	His	Gly	Leu	Tyr	Tyr	Ala
	210					215					220				
Ser	Arg	Ser	Arg	Ser	Pro	Asn	Arg	Phe	Asp	Ala	His	Asp	Pro	Arg	Tyr
225				230				235			240				
Glu	Pro	Arg	Ala	Arg	Glu	Gln	Phe	Thr	Leu	Pro	Ser	Val	Val	His	Arg
		245						250			255				
Asp	Ile	Tyr	Arg	Asp	Asp	Ile	Thr	Arg	Glu	Val	Arg	Gly	Arg	Arg	Pro

	260		265		270
Glu Arg Asn Tyr Gln His Ser Arg Ser Arg Ser Pro His Ser Ser Gln					
	275		280		285
Ser Arg Asn Gln Ser Pro Gln Arg Leu Ala Ser					
	290		295		

&lt;210&gt; 4169

&lt;211&gt; 4743

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4169

```

gtgggttatgg agcagctgcc ggggggtgcc ccaggccccc cccaccccggt tcgaccgccca
60
ccccgcctc caccacccat gcccctgcag ctcgaggccc acctccgcag ccatggcctg
120
gagcccgcg gccccagccc ccgcctgcga ccgaggaga gcctggatcc gccaggcgcc
180
atgcaggaat tgctcggggc tctggagccg ctgcccccg cgcctgggga tactggcgta
240
ggcccaccaa actcggaggg caaggatccc gcaggcgcc acctcagccc cagcccgcaa
300
ggcaccaagg cgccgcgttt cgtgccgctc acctccatct gcttccctga ctcttgctc
360
caagacgagg agcgcagctt cttccccacc atggaggaga tgttcggtgg aggggcccgcg
420
gacgactacg gcaaggcccg gccacctgag gacgaggggg accccaaggc tggcgctggg
480
ccaccccccg gccccctgc ttatgatccc tatgggccct actgtcctgg ccggcgctcg
540
ggagccgggc ccgagacacc gggcctgggc ctggaccca acaaaccgcc tgaactgccc
600
tccacggtca acgccgagcc gctgggcctg atccagagtg gccccacca ggccggcgcca
660
ccacccccgc ctccgccacc gccgcctccc gcgccggcct ccgaaccaa ggggtggcctc
720
acctcgccca tttctgctc taccaagcca aagaagctgc tcaagacatc ctcttccac
780
ctgctgcggc gccgcgaccc acccttccag accccaaga agctgtacgc ccaggagtac
840
gagttcgagg cggacgagga caaggccgat gttcccgccg acatccgcct caaccccccg
900
cgcttgctg acctggtctc cagctgccgc tccgctccgg ccctctcgcc actgggggac
960
atcgacttct gcctacccaa ccaggaccc gatggccccc ggcgccgtgg ccgcaagccc
1020
acgaaggcga aacgtgatgg gccaccccg ccacggggga gggcccgat ccgccccctg
1080
gaggtcccga ccaactgcggg gcccgcctcg gcctccacgc ccaccgatgg cgccaagaaa
1140
ccccggggcc ggggcccagg ccggggtcga aaggctgagg aggcaggggg caccgggttg
1200
gagcccctga agccacttaa gatcaagctg tctgtgcca aggctggcga gggctctggga
1260

```

acctcatcgg gtgatgccat atcaggcact gaccacaaca gcctggactc gagcctgact  
1320  
cgggagaaga tgcaggccaa gattaaggag gtggaggaga agcagccgga gatgaagtcg  
1380  
ggtttcatgg cctccttctt ggacttcctc aagtcaggca agcgccaccc accactctac  
1440  
caggcggggc tgacgcctcc gtcagccct cccaagagtg tgccaccctc tgtgccagcc  
1500  
cgaggcctgc agccccagcc cctgccacc cctgctgtgc cacatcccc accttccgga  
1560  
gcctttgggc ttggggggcg cctggaggct gcagagagtg agggctctggg gcttggtgc  
1620  
ccttcaccct gcaagcggct tgatgaggag ctgaagcgga acctcgagac gctgccctcc  
1680  
ttctcctcgg atgaggaaga ctctgtcgcc aagaaccgag acctgcagga gagcatctcc  
1740  
tccgcatct ctgccctcga tgaccaccc cttgctgggc caaaagacac ttccacccca  
1800  
gatgggccc ccttggtccc cgggctgca gttccagggc cccccctct tccggggctc  
1860  
cccagtgcc acagcaatgg cactcccag ccccgctgc tggaggagaa accccaccc  
1920  
actccacctc ctgccccgac tcctcagcct cagcctccgc cccccctcc gccgccacag  
1980  
ccagccctgc cctcgccacc cccgctgggtg gccccacgc ccagctcacc accgccaccg  
2040  
ccgctgccgc cgccacctcc accagccatg ccctcgctc caccaccacc cccaccagcc  
2100  
gctgccccac tggtgtctcc tcctgaggag cccgcgcgcc cgtctccga agaccccgag  
2160  
ctgccggaca cccggcccct gcatctggcc aaaaagcagg agacggcggc agtgtgtggg  
2220  
gagacggacg aggaggccgg cgagagtggc ggagagggca tcttcggga acgggacgag  
2280  
ttcgtcatcc gtgctgagga catcccttcc ctcaagctgg cgttgagac ggggctgaa  
2340  
ccccaccca tctggcgagt ccagaaggcc cttctgcaga aattcactcc ggagatcaag  
2400  
gacggccaga ggcagttttg tgccaccagt aattatttgg ggtattttgg ggatgcaaaa  
2460  
aatcggtacc agcgcctcta tgtaaagttc ctggaaaatg tcaataagaa ggactacgtg  
2520  
agggctctgtg ctcgaaacc ctggcatcgg ccccgctgc cagtcagacg ctctgggcag  
2580  
gccaagaacc ccgtatctgc tgggggtagc tctgcacctc cccctaaggc cccagcacca  
2640  
cctcccaagc ctgagacccc tgaaaagacg acatctgaga agccccagc agcagactcc  
2700  
tgagacggcc atgectgagc cccctgcccc cgagaagccc tccctcctgc ggctgttga  
2760  
gaaggaaaag gagaaggaga aggtgacacg tggagagcgg ccattgcggg gtgagcgggc  
2820  
caccagcgga cggcagacac ggccagagcg gagtctcgcc acgggacaac ctgccacatc  
2880

ccggctgccc aaagcccgcc ctaccaaggt gaaggctgaa ccgcccccta agaagaggaa  
2940  
gaaatggctg aaggaggcag gcggcaacgc tacagcaggc gggggccccc caggcagctc  
3000  
ctcggactcg gagtccctccc ctggagcccc cagcgaggac gagcgggagc tacctgggag  
3060  
tctgtcaaaa accagggcga tgcgggagat gtaccggagc tacgtggaga tggtggtag  
3120  
cacagcactt gaccagaca tgatccaggc cctggaggac acgcatgacg agctgtacct  
3180  
gccccccatg cggaagatag acggcctgct gaatgagcac aagaagaaag tctgaagcg  
3240  
gctgtcgcta agcccagccc tgcaggatgc tctgcacacg ttcccacagc tgcaagtggg  
3300  
gcagagtggg gagggctctc cggaagaggg ggctgtgcgg ctgcggcctg ctggggaacc  
3360  
ctacaaccgc aagacgtca gcaagctcaa gaggagcgtg gtcagagccc aggagttcaa  
3420  
ggttgagctg gaaaagtcgg gatactatac actctaccat tcgctccacc actataaata  
3480  
ccacaccttc ctgcgtgcc gggaccagac cctggccatc gagggcggcg ccgaggacct  
3540  
gggccaggag gaggtggtcc agcagtgcac gcggaaccag ccgtggctgg aacagctctt  
3600  
tgactccttc agtgacctgc tggcccaagc acaggccccc agccgctgag ggtgaccccc  
3660  
ccccagcttg tgaggggggc gcctcctcca tgaaccgaga attgggacag aaccgtgtcc  
3720  
tcaggagcta acacctgggc tccatcgccg gggaaagggg gtcattgggtc aggggtgtgc  
3780  
tgtgctgccc cctccagggc aggggtcaaa gtccgactcc cgcgcccgc aagaagccgc  
3840  
tttccgctgg cccgcagccg ccgcgacttc ggcacagttt ctccctctgg ctagtctccc  
3900  
aaacggtttc cctctccctt tgccccgacc cccctccac agccacagcc cccgccccct  
3960  
ccaccttgta cataatgtat aggaaaagtc tatgtatggc tggggggggg ggggtggctt  
4020  
cagagagctg ggggacccct tcccccaag tccccctgc aggccaaagat ctttgctaaa  
4080  
ggccattccc tccgcagggc atttggcgtc ggggtgggag ggaaaacgca tcttgtaaat  
4140  
tatttttaat cttatttatt gtacatacct ggggcagggg cttggggagg tggagggggg  
4200  
agaagggtcc cctctctctg cccctccac tccttttcta cggcgatttg tctgtgtctg  
4260  
gccccacccc actgcccac cccattgtt gtctggatgt gggtctattt tttatcggtc  
4320  
tcctttcccc tcctccccgt tctcgcccc gccccacccc ctgctccac taccctttgt  
4380  
ctcttgetct ttcttgggct tctgtacaac tcaacttgta tacactgtgt acacacaacc  
4440  
agccaaacga aaacccaacg gcaaacactt taccggcagg ctggagtgc tctgtcctgc  
4500

ggcgctggag tgggtggcag tggtagcagg ggcagaggtt ctggaacggg actttcccag  
 4560  
 agccctgggc agtggggggc ctgaggctgg catatgttct gtgtccccgc acagcagagt  
 4620  
 atccccccct gaaatttaat gacttcagac aacaaatatt tatcactggg gggtttcttt  
 4680  
 tgtttttttag ctaaagacag ggtctcgctc tgtcaccag gttggagtgc agtggcatga  
 4740  
 tca  
 4743

<210> 4170

<211> 900

<212> PRT

<213> Homo sapiens

<400> 4170

Val	Val	Met	Glu	Gln	Leu	Pro	Gly	Val	Pro	Pro	Gly	Pro	Pro	His	Pro
1				5				10						15	
Val	Arg	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Met	Pro	Leu	Gln	Leu	Glu	
		20					25				30				
Ala	His	Leu	Arg	Ser	His	Gly	Leu	Glu	Pro	Ala	Ala	Pro	Ser	Pro	Arg
		35				40					45				
Leu	Arg	Pro	Glu	Glu	Ser	Leu	Asp	Pro	Pro	Gly	Ala	Met	Gln	Glu	Leu
	50					55				60					
Leu	Gly	Ala	Leu	Glu	Pro	Leu	Pro	Pro	Ala	Pro	Gly	Asp	Thr	Gly	Val
65					70					75				80	
Gly	Pro	Pro	Asn	Ser	Glu	Gly	Lys	Asp	Pro	Ala	Gly	Ala	Tyr	Arg	Ser
			85					90						95	
Pro	Ser	Pro	Gln	Gly	Thr	Lys	Ala	Pro	Arg	Phe	Val	Pro	Leu	Thr	Ser
		100						105					110		
Ile	Cys	Phe	Pro	Asp	Ser	Leu	Leu	Gln	Asp	Glu	Glu	Arg	Ser	Phe	Phe
		115				120						125			
Pro	Thr	Met	Glu	Glu	Met	Phe	Gly	Gly	Gly	Ala	Ala	Asp	Asp	Tyr	Gly
	130					135					140				
Lys	Ala	Gly	Pro	Pro	Glu	Asp	Glu	Gly	Asp	Pro	Lys	Ala	Gly	Ala	Gly
145					150					155				160	
Pro	Pro	Pro	Gly	Pro	Pro	Ala	Tyr	Asp	Pro	Tyr	Gly	Pro	Tyr	Cys	Pro
			165					170						175	
Gly	Arg	Ala	Ser	Gly	Ala	Gly	Pro	Glu	Thr	Pro	Gly	Leu	Gly	Leu	Asp
		180						185				190			
Pro	Asn	Lys	Pro	Pro	Glu	Leu	Pro	Ser	Thr	Val	Asn	Ala	Glu	Pro	Leu
		195				200						205			
Gly	Leu	Ile	Gln	Ser	Gly	Pro	His	Gln	Ala	Ala	Pro	Pro	Pro	Pro	Pro
	210					215					220				
Pro	Pro	Pro	Pro	Pro	Pro	Ala	Pro	Ala	Ser	Glu	Pro	Lys	Gly	Gly	Leu
225					230					235				240	
Thr	Ser	Pro	Ile	Phe	Cys	Ser	Thr	Lys	Pro	Lys	Lys	Leu	Leu	Lys	Thr
			245					250						255	
Ser	Ser	Phe	His	Leu	Leu	Arg	Arg	Arg	Asp	Pro	Pro	Phe	Gln	Thr	Pro
		260						265				270			
Lys	Lys	Leu	Tyr	Ala	Gln	Glu	Tyr	Glu	Phe	Glu	Ala	Asp	Glu	Asp	Lys
		275				280						285			
Ala	Asp	Val	Pro	Ala	Asp	Ile	Arg	Leu	Asn	Pro	Arg	Arg	Leu	Pro	Asp

290 295 300  
 Leu Val Ser Ser Cys Arg Ser Arg Pro Ala Leu Ser Pro Leu Gly Asp  
 305 310 315 320  
 Ile Asp Phe Cys Leu Pro Asn Pro Gly Pro Asp Gly Pro Arg Arg Arg  
 325 330 335  
 Gly Arg Lys Pro Thr Lys Ala Lys Arg Asp Gly Pro Pro Arg Pro Arg  
 340 345 350  
 Gly Arg Pro Arg Ile Arg Pro Leu Glu Val Pro Thr Thr Ala Gly Pro  
 355 360 365  
 Ala Ser Ala Ser Thr Pro Thr Asp Gly Ala Lys Lys Pro Arg Gly Arg  
 370 375 380  
 Gly Arg Gly Arg Gly Arg Lys Ala Glu Glu Ala Gly Gly Thr Arg Leu  
 385 390 395 400  
 Glu Pro Leu Lys Pro Leu Lys Ile Lys Leu Ser Val Pro Lys Ala Gly  
 405 410 415  
 Glu Gly Leu Gly Thr Ser Ser Gly Asp Ala Ile Ser Gly Thr Asp His  
 420 425 430  
 Asn Ser Leu Asp Ser Ser Leu Thr Arg Glu Lys Ile Glu Ala Lys Ile  
 435 440 445  
 Lys Glu Val Glu Glu Lys Gln Pro Glu Met Lys Ser Gly Phe Met Ala  
 450 455 460  
 Ser Phe Leu Asp Phe Leu Lys Ser Gly Lys Arg His Pro Pro Leu Tyr  
 465 470 475 480  
 Gln Ala Gly Leu Thr Pro Pro Leu Ser Pro Pro Lys Ser Val Pro Pro  
 485 490 495  
 Ser Val Pro Ala Arg Gly Leu Gln Pro Gln Pro Pro Ala Thr Pro Ala  
 500 505 510  
 Val Pro His Pro Pro Pro Ser Gly Ala Phe Gly Leu Gly Gly Ala Leu  
 515 520 525  
 Glu Ala Ala Glu Ser Glu Gly Leu Gly Leu Gly Cys Pro Ser Pro Cys  
 530 535 540  
 Lys Arg Leu Asp Glu Glu Leu Lys Arg Asn Leu Glu Thr Leu Pro Ser  
 545 550 555 560  
 Phe Ser Ser Asp Glu Glu Asp Ser Val Ala Lys Asn Arg Asp Leu Gln  
 565 570 575  
 Glu Ser Ile Ser Ser Ala Ile Ser Ala Leu Asp Asp Pro Pro Leu Ala  
 580 585 590  
 Gly Pro Lys Asp Thr Ser Thr Pro Asp Gly Pro Pro Leu Ala Pro Ala  
 595 600 605  
 Ala Ala Val Pro Gly Pro Pro Leu Pro Gly Leu Pro Ser Ala Asn  
 610 615 620  
 Ser Asn Gly Thr Pro Glu Pro Pro Leu Leu Glu Glu Lys Pro Pro Pro  
 625 630 635 640  
 Thr Pro Pro Pro Ala Pro Thr Pro Gln Pro Gln Pro Pro Pro Pro Pro  
 645 650 655  
 Pro Pro Pro Gln Pro Ala Leu Pro Ser Pro Pro Pro Leu Val Ala Pro  
 660 665 670  
 Thr Pro Ser Ser Pro Pro Pro Pro Pro Leu Pro Pro Pro Pro Pro Pro  
 675 680 685  
 Ala Met Pro Ser Pro Pro Pro Pro Pro Pro Ala Ala Ala Pro Leu  
 690 695 700  
 Ala Ala Pro Pro Glu Glu Pro Ala Ala Pro Ser Pro Glu Asp Pro Glu  
 705 710 715 720  
 Leu Pro Asp Thr Arg Pro Leu His Leu Ala Lys Lys Gln Glu Thr Ala

```
<210> 4171
<211> 889
<212> DNA
<213> Homo sapiens
```

```
<400> 4171
nngcaggcct tctggtgatc gccagcgctg tcgtctctga gcgtggatcc cagaacctgg
60
acagctgtgg cggccgccgt ttcccgggtcc cgtccagacg ctgtctggcg agatcggacg
120
gtgagcctaa ggcggaacgc gtgaggcgct tttgagtctg ggggtccgggg ccgagagcag
180
gcggaagag aggggacctg gcagaccccg agtggccgcc gctgcggggc ccaagtcctt
240
ggctgctgag tggtgacagt agcccagccc gccggccaga tatggtccag acctgtacat
300
gaataacttt ggttagtcag agtgaaatat tcaataatga gtggtgcagc tttgggactt
360
gagattgttt ttgtcttttt tctggcatta tttctgcttc atcgatatgg agactttaag
420
aaacagcata gacttgtgat tattggaaca ctgcttgctt ggtatctctg ctttcttatt
480
gtcttcatac tgcctctgga tgtagtacg acaatataca accggtgcaa gcatgctgct
540
caaattcaag ccctcctgag aatagcaaca ttacaggatt gtgcaactgc taacctgtt
600
ccaagccagc atccttgttt caagccatgg agttacattc ctgatggaat catgccaatt
660
ttctggaggg tagtgtattg gacgtcacao tttttaacat ggattctctt accttttatg
720
```



cagtcatatg caagatcagg aggggttttcc atcactggaa agatcaaaac tgcactaatt  
 780  
 gagaatgcaa tctactatgg cacctatttg ctgatttttg gagcattttt aatttatgta  
 840  
 gctgtaaacc cacatttaca tttagaatgg aaccagcttc agacaattg  
 889

<210> 4172  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 4172  
 Met Ser Gly Ala Ala Leu Gly Leu Glu Ile Val Phe Val Phe Phe Leu  
 1 5 10 15  
 Ala Leu Phe Leu Leu His Arg Tyr Gly Asp Phe Lys Lys Gln His Arg  
 20 25 30  
 Leu Val Ile Ile Gly Thr Leu Leu Ala Trp Tyr Leu Cys Phe Leu Ile  
 35 40 45  
 Val Phe Ile Leu Pro Leu Asp Val Ser Thr Thr Ile Tyr Asn Arg Cys  
 50 55 60  
 Lys His Ala Ala Gln Ile Gln Ala Leu Leu Arg Ile Ala Thr Leu Gln  
 65 70 75 80  
 Asp Cys Ala Thr Ala Asn Pro Val Pro Ser Gln His Pro Cys Phe Lys  
 85 90 95  
 Pro Trp Ser Tyr Ile Pro Asp Gly Ile Met Pro Ile Phe Trp Arg Val  
 100 105 110  
 Val Tyr Trp Thr Ser Gln Phe Leu Thr Trp Ile Leu Leu Pro Phe Met  
 115 120 125  
 Gln Ser Tyr Ala Arg Ser Gly Gly Phe Ser Ile Thr Gly Lys Ile Lys  
 130 135 140  
 Thr Ala Leu Ile Glu Asn Ala Ile Tyr Tyr Gly Thr Tyr Leu Leu Ile  
 145 150 155 160  
 Phe Gly Ala Phe Leu Ile Tyr Val Ala Val Asn Pro His Leu His Leu  
 165 170 175  
 Glu Trp Asn Gln Leu Gln Thr Ile  
 180

<210> 4173  
 <211> 404  
 <212> DNA  
 <213> Homo sapiens

<400> 4173  
 tgatcatctc ccaaaggctt cactccaaat atcatcacat tgcggattac agattcaaca  
 60  
 taggaatttg gggggacaca gacattcagt ccatagtagc aagcttaagg tttctggggg  
 120  
 ctagagacaa aatgttccga ttagtgtgct tcagtttcat catgagattt aatagtaata  
 180  
 actacgttat ggaatgggtt gagaatttaa tgagtaacct ggagctgggc acccctgtgt  
 240  
 caaagtgcgc tagggcactg ggttcggeta aaggccatt gctatgctgc tgcgtgcagg  
 300

catggcatct acaagatgga gactctttcc tgacacacga ccattactac atgctaaatg  
 360  
 acctcccaga ctctagctcg cctgtggctg ccacctttat gttt  
 404

<210> 4174  
 <211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 4174  
 Met Phe Arg Leu Val Cys Phe Ser Phe Ile Met Arg Phe Asn Ser Asn  
 1 5 10 15  
 Asn Tyr Val Met Glu Trp Phe Glu Asn Leu Met Ser Asn Leu Glu Leu  
 20 25 30  
 Gly Thr Pro Val Ser Lys Cys Ala Arg Ala Leu Gly Ser Ala Lys Gly  
 35 40 45  
 Pro Leu Leu Cys Cys Cys Val Gln Ala Trp His Leu Gln Asp Gly Asp  
 50 55 60  
 Ser Phe Leu Thr His Asp His Tyr Tyr Met Leu Asn Asp Leu Pro Asp  
 65 70 75 80  
 Ser Ser Ser Pro Val Ala Ala Thr Phe Met Phe  
 85 90

<210> 4175  
 <211> 2778  
 <212> DNA  
 <213> Homo sapiens

<400> 4175  
 aattccttaa ctttggaggc agtgaaacga ctaatagcag aaggtaataa agaagaacta  
 60  
 cgaaaatggt ttggggcccg aatggagttt gggacagctg gcctccgagc tgctatggga  
 120  
 cctggaattt ctctatgaa tgacttgacc atcatccaga ctacacaggg attttgcaga  
 180  
 tacctggaaa aacaattcag tgacttaaag cagaaaggca tcgtgatcag ttttgacgcc  
 240  
 cgagctcatc catccagtgg gggtagcagc agaaggtttg cccgacttgc tgcaaccaca  
 300  
 tttatcagtc aggggattcc tgtgtacctc ttttctgata taacgccaac cccctttgtg  
 360  
 ccttcacag tatcacattt gaaactttgt gctggaatca tgataactgc attcacaat  
 420  
 ccaaagcagg ataatggta taaggcttat tgggataatg gagctcagat catttctcct  
 480  
 cagataaag ggatttctca agctattgaa gaaaatctag aaccgtggcc tcaagcttgg  
 540  
 gacgattctt taattgatag cagtccactt ctccacaatc cgagtgttc catcaataat  
 600  
 gactactttg aagaccttaa aaagtactgt ttccacagga gcgtgaacag ggagacaaag  
 660  
 gtgaagtgtg tgcacacctc tgtccatggg gtgggtcata gctttgtgca gtcagcttcc  
 720

aaggcttttn gaccttggtc ctccnntgag gctgttcttg aacagaaaga tccggtacct  
780  
gagtttccaa cagtgaataa cccgaatccc gaagagggga aagggtgtctt gactttgtct  
840  
tttgctttgg ctgacaaaac caaggccaga attgttttag ctaacgaccc ggatgctgat  
900  
agacttgctg tggcagaaaa gcaagacagt ggtgaatgga ggggtgtttc aggcaatgag  
960  
ttggggggccc tcctgggctg gtggcttttt acatcttgga aagagaagaa ccaggatcgc  
1020  
agtgtcttca aagacacgta catgttgtcc agcaccgtct cctccaaaat ctgcggggcc  
1080  
attgccttaa aggaagggtt tcattttgag gaaacattaa ctggctttta gtggatggga  
1140  
aacagagcca aacagctaata agaccagggg aaaactgttt tatttgcatt tgaagaagct  
1200  
attggataca tgtgtgtccc ttttgttctg gacaaagatg gagtcagtgc cgctgtcata  
1260  
agtgcagagt tggctagctt cctagcaacc aagaatttgt ctttgtctca gcaactaaag  
1320  
gccatttatg tggagtatgg ctaccatatt actaaagctt cctattttat ctgccatgat  
1380  
caagaaacca ttaagaaatt atttgaaaac ctcagaaact acgatggaaa aaataattat  
1440  
ccaaaagctt gtggcaaatt tgaaatttct gccattaggg accttacaac tggctatgat  
1500  
gatagccaac ctgataaaaa agctgttctt cccactagta aaagcagcca aatgatcacc  
1560  
ttcacctttg ctaatggagg cgtggccacc atgcgcacca gtgggacaga gcccaaaatc  
1620  
aagtactatg cagagctgtg tgccccacct gggaacagtg atcctgagca gctgaagaag  
1680  
gaactgaatg aactggtcag tgctattgaa gaacattttt tccagccaca gaagtacaat  
1740  
ctgcagccaa aagcagacta aaatagtcca gccttgggta tacttgcatt tacctacaat  
1800  
taagctgggt ttaacttggt aagcaatatt ttttaaggcc aaatgattca aaacatcaca  
1860  
ggtatttatg tgttttacaa agacctacat tcctcattgt ttcattgttg acctttaagg  
1920  
tgaaaaaaga aaatggccaa acccaacaaa ctaacattcc tactaaaaag ttgagcttgg  
1980  
acatattttg aatttttgta agtgaagatt tttaaactga ctaacttaaa aaaatagatt  
2040  
gtaattgatg tgccttaatt tgcataaatc ataaatgtat gtcctctctg taattgtttt  
2100  
aatgtgtgct tgaaatatcc agaaaaccta tggagttagt aaattctggg ctgtcatatg  
2160  
taggatagcc acttttttagg tatatgtaca tttatatttc tatcaattcc ttagaaagta  
2220  
aaataaatga atagatcaaa tgttgtgttc atgtttgggg aaaatataat ttgcagaaac  
2280  
ctatgaagta gagcaaagat gctttaaaaa gataagtttt tttgaactaa atttttttta  
2340

gttctaataa tgcacatagg atattagtag atcgtagacg tgctaggaaa aaacagcttc  
 2400  
 agtgtctttg tttaatgtgt tgaaactcat ctttttaa at cttgaaaaac caattgttta  
 2460  
 cttgaaactt gaaagtagca tatttttctg ttttttggtt gtttgttcat ttgtattagc  
 2520  
 acaattta at gtaattcctg gtttgaggcg agcaagacct atgagcaaga actatttact  
 2580  
 tgaccctcgg ttttttctct tgttcttggt tgggtctgaaa tctaaaacta gactttatta  
 2640  
 tgataggatt cctataagcc aatttcta at tacaatagaa ttattattta atccgtacct  
 2700  
 ttcattcttc tcataatcgt ggggattacc ggcctcccaa aaaactccgt tgggggaccc  
 2760  
 tggggctggg gttccaac  
 2778

&lt;210&gt; 4176

&lt;211&gt; 586

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4176

Asn	Ser	Leu	Thr	Leu	Glu	Ala	Val	Lys	Arg	Leu	Ile	Ala	Glu	Gly	Asn
1				5				10					15		
Lys	Glu	Glu	Leu	Arg	Lys	Cys	Phe	Gly	Ala	Arg	Met	Glu	Phe	Gly	Thr
			20					25					30		
Ala	Gly	Leu	Arg	Ala	Ala	Met	Gly	Pro	Gly	Ile	Ser	Arg	Met	Asn	Asp
			35				40					45			
Leu	Thr	Ile	Ile	Gln	Thr	Thr	Gln	Gly	Phe	Cys	Arg	Tyr	Leu	Glu	Lys
			50			55				60					
Gln	Phe	Ser	Asp	Leu	Lys	Gln	Lys	Gly	Ile	Val	Ile	Ser	Phe	Asp	Ala
65				70						75				80	
Arg	Ala	His	Pro	Ser	Ser	Gly	Gly	Ser	Ser	Arg	Arg	Phe	Ala	Arg	Leu
			85					90						95	
Ala	Ala	Thr	Thr	Phe	Ile	Ser	Gln	Gly	Ile	Pro	Val	Tyr	Leu	Phe	Ser
			100					105					110		
Asp	Ile	Thr	Pro	Thr	Pro	Phe	Val	Pro	Phe	Thr	Val	Ser	His	Leu	Lys
			115				120					125			
Leu	Cys	Ala	Gly	Ile	Met	Ile	Thr	Ala	Ser	His	Asn	Pro	Lys	Gln	Asp
			130			135					140				
Asn	Gly	Tyr	Lys	Val	Tyr	Trp	Asp	Asn	Gly	Ala	Gln	Ile	Ile	Ser	Pro
145				150						155				160	
His	Asp	Lys	Gly	Ile	Ser	Gln	Ala	Ile	Glu	Glu	Asn	Leu	Glu	Pro	Trp
			165					170						175	
Pro	Gln	Ala	Trp	Asp	Asp	Ser	Leu	Ile	Asp	Ser	Ser	Pro	Leu	Leu	His
			180					185					190		
Asn	Pro	Ser	Ala	Ser	Ile	Asn	Asn	Asp	Tyr	Phe	Glu	Asp	Leu	Lys	Lys
			195				200					205			
Tyr	Cys	Phe	His	Arg	Ser	Val	Asn	Arg	Glu	Thr	Lys	Val	Lys	Phe	Val
			210				215					220			
His	Thr	Ser	Val	His	Gly	Val	Gly	His	Ser	Phe	Val	Gln	Ser	Ala	Phe
225				230						235				240	
Lys	Ala	Phe	Xaa	Pro	Cys	Ser	Ser	Xaa	Glu	Ala	Val	Pro	Glu	Gln	Lys

```

                245                250                255
Asp Pro Asp Pro Glu Phe Pro Thr Val Lys Tyr Pro Asn Pro Glu Glu
                260                265                270
Gly Lys Gly Val Leu Thr Leu Ser Phe Ala Leu Ala Asp Lys Thr Lys
                275                280                285
Ala Arg Ile Val Leu Ala Asn Asp Pro Asp Ala Asp Arg Leu Ala Val
                290                295                300
Ala Glu Lys Gln Asp Ser Gly Glu Trp Arg Val Phe Ser Gly Asn Glu
305                310                315                320
Leu Gly Ala Leu Leu Gly Trp Trp Leu Phe Thr Ser Trp Lys Glu Lys
                325                330                335
Asn Gln Asp Arg Ser Ala Leu Lys Asp Thr Tyr Met Leu Ser Ser Thr
                340                345                350
Val Ser Ser Lys Ile Leu Arg Ala Ile Ala Leu Lys Glu Gly Phe His
                355                360                365
Phe Glu Glu Thr Leu Thr Gly Phe Lys Trp Met Gly Asn Arg Ala Lys
                370                375                380
Gln Leu Ile Asp Gln Gly Lys Thr Val Leu Phe Ala Phe Glu Glu Ala
385                390                395                400
Ile Gly Tyr Met Cys Cys Pro Phe Val Leu Asp Lys Asp Gly Val Ser
                405                410                415
Ala Ala Val Ile Ser Ala Glu Leu Ala Ser Phe Leu Ala Thr Lys Asn
                420                425                430
Leu Ser Leu Ser Gln Gln Leu Lys Ala Ile Tyr Val Glu Tyr Gly Tyr
                435                440                445
His Ile Thr Lys Ala Ser Tyr Phe Ile Cys His Asp Gln Glu Thr Ile
                450                455                460
Lys Lys Leu Phe Glu Asn Leu Arg Asn Tyr Asp Gly Lys Asn Asn Tyr
465                470                475                480
Pro Lys Ala Cys Gly Lys Phe Glu Ile Ser Ala Ile Arg Asp Leu Thr
                485                490                495
Thr Gly Tyr Asp Asp Ser Gln Pro Asp Lys Lys Ala Val Leu Pro Thr
                500                505                510
Ser Lys Ser Ser Gln Met Ile Thr Phe Thr Phe Ala Asn Gly Gly Val
                515                520                525
Ala Thr Met Arg Thr Ser Gly Thr Glu Pro Lys Ile Lys Tyr Tyr Ala
                530                535                540
Glu Leu Cys Ala Pro Pro Gly Asn Ser Asp Pro Glu Gln Leu Lys Lys
545                550                555                560
Glu Leu Asn Glu Leu Val Ser Ala Ile Glu Glu His Phe Phe Gln Pro
                565                570                575
Gln Lys Tyr Asn Leu Gln Pro Lys Ala Asp
                580                585

```

&lt;210&gt; 4177

&lt;211&gt; 4763

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4177

```

tttttttttt tttttttttt tttttttttt tttttttttt tttgaagcaa taaaagcaca

```

60

```

gatttattga agcaaaagta tattccacag agtgggagca ggctaaagca agctgctcaa

```

120

gagccccagt tgcaaaatct ggggtttaag tacccttttag gggtttccta ttgggttacac  
180  
cctatgcgcc accaatcgga ggccgaagtg aaggctccca gtctccagac tcttattctc  
240  
ctagctcaaa gaaatccact gatttctctt gtagcatctt cagggttccat cttgacaact  
300  
tcctctaaat ccccagggga agagttgttt agagactcct ggatgccctg agggagcggc  
360  
tccagagctt gccttccctc ctctgttttc acaacgggtcc agcgataggc actgttctct  
420  
gacaatcctt cttggcactg tttatcgact ggtggaggcc ctgggctatg ttccactttg  
480  
gggaaaacag tagcagagag aggagatagt tcctggggct ctaatttggg ttctaggccc  
540  
tgaaaggcat tttcccatc agccacagca caagcaatgt ccacattcat gtgggcctta  
600  
tcttcagggg tggatggtat aggaagattc acagaattgc cagaaacaat taagggtgag  
660  
acagaggagg ccacaagggg ctggttcaat ggacagggga aggaagtagg gttaaccaag  
720  
agggtggcga tgggaatagt ctggggactc tgggccacag ccgcattgac aggctggatc  
780  
atgttacagc caccgccaag gctcacaatc ttcacagtgg tagcaggaac agtgaagata  
840  
acagatgcag ggtggataac aggggcaggt ttgatacagc gaaaggccct ggctcccctt  
900  
ctttttgagg gtctccgtct cacatatggc tttcgaaaca tggaagaggc aggggagggc  
960  
atcattacct tgggcacagg ggcagaagag agcaaagtct gggactcaga cagagggaag  
1020  
cttgtcctgg cctcaggggg catagcaggc agtgctgcag gagactcaaa actctcacct  
1080  
ccactgacct ccagtggagg gacacctgga actgtctgta aaacagtggc tggctgtatt  
1140  
gggtgaggaa tccggagcac cattttgctc ggaggggctt ctgaatgagt tgattgggct  
1200  
ggtgttttcc cagggttgaa gctgggctgg agagaggggc tgggttgat aaggaggggt  
1260  
ttcaggactg atgaacgctt ctgtctccaa gccttcttgg ggaaacggtc ggcaactggc  
1320  
ttcagtttca ggactacacc cttaggcaat agcagtgggt accgagtctc actccccaac  
1380  
tctgagttgt ctttttctag gcttcgatct gagttgatct cagtgggtcc agtcatattt  
1440  
cctacctctc tagcaccatc agccatgtgc cgcagttctt cctggatgga tggcagactg  
1500  
gcctttaacc agaatgggag ccggtgttct tctctctcta taggtggctt ccactgatgt  
1560  
ggctggatct cttcacagca ttttctagg actggcagct gtttggtctt cttataaaat  
1620  
ttaatgatgt tgtcaggagc tctgttcatt ttgaggttct tgattctcac tgtcagttgg  
1680  
cgggcagtct tgcaggttag aaggtaactg ctgattagag ggttaagaaa ctcagtcctt  
1740

tcaaaatgct tcagtcctaa agctaacaaa ttgtcctcag ccttggtgaa gaggatctta  
1800  
tcctggggat tctttgcctt cagggaaacac actggaagta actctggata catgaaaacc  
1860  
ttgcttggtg ccaggatcca agccacttgc ttgggcaaac agggaaattc attggcagtc  
1920  
ttcttgacag ttttatgagg gctgcagtc atgctgacat gtgtgctgaa gtcttcaatc  
1980  
agctgcatag ctcccatcaa gttacagggg ttgaacaggg tctgaaactt ggggttgtag  
2040  
tgatggtgaa gggcgatgga gctttgagca aagggtccca gctctttaag acatatcctg  
2100  
gtgctactgg cctccggatt gagattgggg ttgcaggtgg caagaagggt gatttgtgtc  
2160  
aagagctgaa catgctgctg catctgctgc tggagtctct tcctttgtgc tgggtccaga  
2220  
atcaggggtc gatgaacttc cttacactgg ggtttaacct tctctacttc cttctgctgt  
2280  
ttggctgaag gtttcttcat cttcagctgt tcaaatagtt ccttcgctat ctgatgttgt  
2340  
tcatttagta ggttgccag tagttcctca aaccgtagag cttgaggggt gttaaagtta  
2400  
gcttgaggct cagccacacg ctctcctct tctgggcat catcttccat gttggagaat  
2460  
cccattcat cttggaagt ttcaaacaga tcttccatca gtcatttac ttccttttcg  
2520  
tgtcggaggc cgaggccgaa gccgagagcg atgagagtac agggaaagtga ggaagagggg  
2580  
gtggccgcca ggctcctccg cttccctggg tccaccgag atcctccgc ttgtcaggag  
2640  
gcgccacggt ctcaggacgg gcgctttgga gccggcccca ggcagcgtgt gtcggtcgcc  
2700  
tagtctggag aactagtctt cgactcacgg tgagggaatg gaccgacacg ggtattgtac  
2760  
cgctgagggg aaggagcggg actccggacc tccaggagtg caaggatgat gctgaaagga  
2820  
ataacaaggc ttatctctag gatccataag ttggaccctg ggcgtttttt acacatgggg  
2880  
accaggctc gccaaagcat tgctgctcac ctagataacc aggttccagt tgagagtccg  
2940  
agagctatct cccgcaccaa tgagaatgac ccggccaagc atggggatca gcacgagggg  
3000  
cagcactaca acatctcccc ccaggatttg gagactgtat ttcccatgg ccttctcct  
3060  
cgctttgtga tgcaggtgaa gacattcagt gaagcttgcc tgatggtaag gaaaccagcc  
3120  
ctagaacttc tgcattacct gaaaaacacc agttttgctt atccagctat acgatatctt  
3180  
ctgtatggag agaaggggaa agggaaaaacc ctaagtcttt gccatgtttt tcatttctgt  
3240  
gcaaaacagg actggctgat actacatatt ccagatgctc atctttgggt gaaaaattgt  
3300  
cgggatcttc tgcagtccag ctacaacaaa cagcgctttg atcaaccttt agaggcttca  
3360

acctggctga agaatttcaa aactacaaat gagcgcttcc tgaaccagat aaaagttcaa  
3420  
gagaagtatg tctggaataa gagagaactc actgagaaag ggagtcctct gggagaagtg  
3480  
gttgaacagg gcataacacg ggtgaggaac gccacagatg cagttggaat tgtgctgaaa  
3540  
gagctaaaga ggcaaagttc tttgggtatg tttcacctcc tagtggccgt ggatggaatc  
3600  
aatgctcttt ggggaagaac cactctgaaa agagaagata aaagcccgat tgcccccgag  
3660  
gaattagcac ttgttcacaa cttgaggaaa atgatgaaaa atgattggca tggaggcgcc  
3720  
attgtgtcgg ctttgagcca gactgggtct ctctttaagc cccggaaagc ctatctgccc  
3780  
caggagttgc tgggaaagga aggatttgat gccctggatc cctttattcc catcctggtt  
3840  
tccaactata acccaaagga atttgaaagt tgtattcagt attatttga aaacaattgg  
3900  
cttcaacatg agaaagctcc tacagaagaa gggaaaaaag agctgctgtt cctaagtaac  
3960  
gcgaaccctc cgctgctgga gcggcactgt gcctacctct aagccaagat cacagcatgt  
4020  
gaggaagaca gtggacatct gctttatgct ggaccagta agatgaggaa gtcgggcagt  
4080  
acacaggaag aggagccagg cccttgatc tatgggattg gacaggactg cagttggctc  
4140  
tggacctgca ttaaaatggg tttcactgtg aatgcgtgac aataagatat tcccttgctc  
4200  
ctaaaacttt atatcagttt attggatgtg gtttttcaca ttaagataa ttatggctct  
4260  
tttcttaaaa aataaaatat ctttctaaag tgttgtgtta gattaataat atggaaggag  
4320  
tcttttagatt ggccaaattg catttctctg atattcctct tgttgcaagt cagaagagat  
4380  
caattctaca gaaatttcca gtggttctgt tgaggcttta tggaattcag catgtcaaaa  
4440  
ttcacagctg gctgggcaca gtggctcatg cctgtaatcc cagcactttg gaagccaag  
4500  
gcgggcagac tgcttgagtt caggagtttg caaccagcct gggcaacatg gtgaaaacct  
4560  
gtctctacta aaaatacaaa aattagccgg gcacgtgtgc atgcgctgt agtccaagct  
4620  
acttgggagg ctgaggcagg agaattgctt caacttggga ggcggatgtt gcagtgagcc  
4680  
aaaattgcac cactgcactc cagcctgggc agcagagcaa gactccgtct caaaataaat  
4740  
aaataaataa ataaataaat aaa  
4763

&lt;210&gt; 4178

&lt;211&gt; 398

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens



&lt;400&gt; 4178

Met Met Leu Lys Gly Ile Thr Arg Leu Ile Ser Arg Ile His Lys Leu  
 1 5 10 15  
 Asp Pro Gly Arg Phe Leu His Met Gly Thr Gln Ala Arg Gln Ser Ile  
 20 25 30  
 Ala Ala His Leu Asp Asn Gln Val Pro Val Glu Ser Pro Arg Ala Ile  
 35 40 45  
 Ser Arg Thr Asn Glu Asn Asp Pro Ala Lys His Gly Asp Gln His Glu  
 50 55 60  
 Gly Gln His Tyr Asn Ile Ser Pro Gln Asp Leu Glu Thr Val Phe Pro  
 65 70 75 80  
 His Gly Leu Pro Pro Arg Phe Val Met Gln Val Lys Thr Phe Ser Glu  
 85 90 95  
 Ala Cys Leu Met Val Arg Lys Pro Ala Leu Glu Leu Leu His Tyr Leu  
 100 105 110  
 Lys Asn Thr Ser Phe Ala Tyr Pro Ala Ile Arg Tyr Leu Leu Tyr Gly  
 115 120 125  
 Glu Lys Gly Thr Gly Lys Thr Leu Ser Leu Cys His Val Phe His Phe  
 130 135 140  
 Cys Ala Lys Gln Asp Trp Leu Ile Leu His Ile Pro Asp Ala His Leu  
 145 150 155 160  
 Trp Val Lys Asn Cys Arg Asp Leu Leu Gln Ser Ser Tyr Asn Lys Gln  
 165 170 175  
 Arg Phe Asp Gln Pro Leu Glu Ala Ser Thr Trp Leu Lys Asn Phe Lys  
 180 185 190  
 Thr Thr Asn Glu Arg Phe Leu Asn Gln Ile Lys Val Gln Glu Lys Tyr  
 195 200 205  
 Val Trp Asn Lys Arg Glu Leu Thr Glu Lys Gly Ser Pro Leu Gly Glu  
 210 215 220  
 Val Val Glu Gln Gly Ile Thr Arg Val Arg Asn Ala Thr Asp Ala Val  
 225 230 235 240  
 Gly Ile Val Leu Lys Glu Leu Lys Arg Gln Ser Ser Leu Gly Met Phe  
 245 250 255  
 His Leu Leu Val Ala Val Asp Gly Ile Asn Ala Leu Trp Gly Arg Thr  
 260 265 270  
 Thr Leu Lys Arg Glu Asp Lys Ser Pro Ile Ala Pro Glu Glu Leu Ala  
 275 280 285  
 Leu Val His Asn Leu Arg Lys Met Met Lys Asn Asp Trp His Gly Gly  
 290 295 300  
 Ala Ile Val Ser Ala Leu Ser Gln Thr Gly Ser Leu Phe Lys Pro Arg  
 305 310 315 320  
 Lys Ala Tyr Leu Pro Gln Glu Leu Leu Gly Lys Glu Gly Phe Asp Ala  
 325 330 335  
 Leu Asp Pro Phe Ile Pro Ile Leu Val Ser Asn Tyr Asn Pro Lys Glu  
 340 345 350  
 Phe Glu Ser Cys Ile Gln Tyr Tyr Leu Glu Asn Asn Trp Leu Gln His  
 355 360 365  
 Glu Lys Ala Pro Thr Glu Glu Gly Lys Lys Glu Leu Leu Phe Leu Ser  
 370 375 380  
 Asn Ala Asn Pro Ser Leu Glu Arg His Cys Ala Tyr Leu  
 385 390 395

&lt;210&gt; 4179

&lt;211&gt; 2208

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4179

tttttttttt ttttttttgg gaatgttagt gcaatttaat caccataagg gtgactttta  
60  
aagatacact gatagttaaa aaaaaaagac aattaaaaaa tagcattttg ttttttaaat  
120  
ggcaccatt aaagactcaa cagtcaaat gagacaaatc agtccttag acgttcacag  
180  
acaattgaaa ggcactttaa aaatccactt tttaaactac cacttgagaa cacatggtag  
240  
cacagtctta aattcactct agttgatcgg gaatgatgaa tgagtgttg caccagaaaa  
300  
tcctgcttgc agaagggggc gcagggtgctg gtccacggga cagccactgg ccaggctagc  
360  
tgccgctca ctccgcagcc ttctgtggct aaatggcagg acggacacac aggaatgggc  
420  
tttggaccac aagctctggc atatcgggag gcaaagcact caagtactct gcagtctaga  
480  
tgacacattt catggttttg aggacagaag taggtttcca catcacatga aaaggacagt  
540  
gtcacagtgg ggttaccag taaacagcta ccaaagccat catttcacgc ttcctgtag  
600  
ttttatgagc tcgccctctg catgtggata tggggaaagc cgggcatgaa ggggtgtgtg  
660  
aaaaagaaca gcctctgtga ctgactgcag taagctcaca agtttgtcac tgtcagactt  
720  
agcaagtcag cctgcaaagg ttgtgctgat ctcttggcca cactacctac tcaggttccc  
780  
atccatgect cctgectgcc cccaccccca gccccaccag tgagacttct gattggaagt  
840  
ctatagacat aagaattcaa ctctgaccca tggatgagag gatgaggcaa agaaccaatg  
900  
ggttatctag taaacgatca ataactacct acccacaatg attgtcccag gccaatgtca  
960  
caagacgaca ttacttccaa gaaccaagtc atcccttgct tctgcgggcc cagtgccacg  
1020  
ggtactgtcc tgagtggttt ggaaggtggg tagccgctga tacagggaca ggcagatgtg  
1080  
cagacactta ccacctggt ccaccgatcc caccatgc ttccacctcc cagagctctt  
1140  
gagataagac cttaagaagg atccttgggc ttgcattaaa accactttgc tgtccgtgga  
1200  
ggtctgacag gaccaatag ttgttactac aaaagtgtt ttgcaaatag ggcaagttag  
1260  
aagaaggagg taatatgaat attctttaga aaaactcaaa tccatcggct tatcaatacc  
1320  
caaagtctga ggctaccag ggcacaattt ggtccatgga atgctgagtg gaggaggcag  
1380  
ctggtgtgag gctgcgctg actcccagga gcatttagcc atcctttttg gcttggggag  
1440  
tgtcaaagag ccggactgcc ttctgcaca gcagacagaa ccagtagatc tgaggagcta  
1500

cgaggaaggc attggccacg ttgcagtaga atgggatgct gaagggtact tggagcaggc  
 1560  
 ttagtccctg ctggcggcca taggaccagt acatgaaggg gaagagaagg atccggcagg  
 1620  
 aaaggaaggt ggccagcgtg aggattccat tcaccttgta cagaagggtg tgctgctgct  
 1680  
 ttagctgaat cagaacctg cccagcgaca caaacggagt gctcagttct gccgtgaaga  
 1740  
 tgcagccgac aaagaagtcc ccaaggtctc cccggagcct ctgtgcgact ggcacaagga  
 1800  
 caaagagaat gaccgcatga tgtgtgatca tgaggcgggt tcgacttagg aagtttcgaa  
 1860  
 gagtgaagga gggcgcacgg ttctgggtctc tggttcggca ccattcacag aggtacatgg  
 1920  
 cgtacgagtc atagatcatg tatggaatca gaaaccacac atattcccgg gcaagccagt  
 1980  
 gcctgccggt gatcacgtcg tcgcaggagc gaatgatgac gatccccgag ccggtggcca  
 2040  
 gcacggcgtg caccgaggaa accagcctgg tgctgatcat cacgcagtcg gtgcggctcc  
 2100  
 atccgggctg ggagcggcgc agcgcccagg tgcagagcgc gaagagcccc gggaagaaga  
 2160  
 gcgcgcccc ggccagcgtc agcagcatcg gggctgcggg tccggccg  
 2208

<210> 4180

<211> 257

<212> PRT

<213> Homo sapiens

<400> 4180

Met	Leu	Leu	Thr	Leu	Ala	Gly	Gly	Ala	Leu	Phe	Phe	Pro	Gly	Leu	Phe
1				5					10					15	
Ala	Leu	Cys	Thr	Trp	Ala	Leu	Arg	Arg	Ser	Gln	Pro	Gly	Trp	Ser	Arg
			20					25					30		
Thr	Asp	Cys	Val	Met	Ile	Ser	Thr	Arg	Leu	Val	Ser	Ser	Val	His	Ala
		35					40					45			
Val	Leu	Ala	Thr	Gly	Ser	Gly	Ile	Val	Ile	Ile	Arg	Ser	Cys	Asp	Asp
		50				55					60				
Val	Ile	Thr	Gly	Arg	His	Trp	Leu	Ala	Arg	Glu	Tyr	Val	Trp	Phe	Leu
65					70					75				80	
Ile	Pro	Tyr	Met	Ile	Tyr	Asp	Ser	Tyr	Ala	Met	Tyr	Leu	Cys	Glu	Trp
			85					90					95		
Cys	Arg	Thr	Arg	Asp	Gln	Asn	Arg	Ala	Pro	Ser	Leu	Thr	Leu	Arg	Asn
			100					105					110		
Phe	Leu	Ser	Arg	Asn	Arg	Leu	Met	Ile	Thr	His	His	Ala	Val	Ile	Leu
		115					120					125			
Phe	Val	Leu	Val	Pro	Val	Ala	Gln	Arg	Leu	Arg	Gly	Asp	Leu	Gly	Asp
		130				135					140				
Phe	Phe	Val	Gly	Cys	Ile	Phe	Thr	Ala	Glu	Leu	Ser	Thr	Pro	Phe	Val
145					150					155				160	
Ser	Leu	Gly	Arg	Val	Leu	Ile	Gln	Leu	Lys	Gln	Gln	His	Thr	Leu	Leu
			165					170					175		
Tyr	Lys	Val	Asn	Gly	Ile	Leu	Thr	Leu	Ala	Thr	Phe	Leu	Ser	Cys	Arg

```

<400> 4182
His Pro Ala Gly Ile Glu Phe Ser Leu Cys Leu Leu Phe Ala Lys Leu
 1             5             10             15
Val Ser Tyr Thr Phe Leu Tyr Trp Leu Pro Leu Tyr Ile Ala Asn Val

```

```
<210> 4183
<211> 1129
<212> DNA
<213> Homo sapiens
```

```

<400> 4183
tttttttttt ttcaaaggct tatctttatc ttgaacttct tttgagaagc gctccctttc
60
aatagctgat tctctctcta ttcgctcaat ttcagccaat gcatccaatt ccaacttcac
120
atatataggt ccctgtttgtg atatctgttg ttgattctgt accacagaag tctgggggtg
180
ttttgtagca actgaagtgt tctgttgtaa aacaggcact tgatttgctg gaaggaatgc
240
tgtttgttct tgctgcgaca aacattgagc agcattaagt gggcggttta cgtcctgtgg
300
agtaatgggt gtttttgaag tctgtccttg atactgcaca ttaaaaggaa tatcattttc
360
tgaaacattg ctattttcca taccagatag catatcctct tgctggtcca tatccgaaga
420
ccttacacga gaaagtctta atgtaagttt agtagagtcc ttggatggag aactaattat
480
atcatacatt gcgcgtttct cactctgctc tttttcatcc ttgcctaatt tcattttctt
540
ctgcttcttt tgttttcttt ctggagaatc tagcaagata tctgggtggaa catctcgagg
600
tgatgaacaa ggtagagact gagattgtag gattaaagggt ggtcttgagc ctttaggagt
660
tccttcactt ccagcagggg agcatactgg ctgtggagat ctcaagggaa aagatgcagc
720
attcctcatt gttgaagaat ctccatcgtc actacttagc ctgtgcacca tgtgtaggta
780

```

gtctcactt gaaccatgtc taggattatc agcatgatga ttagctgaat tgccagacaa  
 840  
 cggaccagaa actttattat catgtatggt tctcaaacca cctgcaacaa tgggacttga  
 900  
 taccgatgct tgttgcatct gtggatgtgt tgtgtaactt gaaggatggg aatatggcat  
 960  
 gtatcctgca gggctttgtg gggcgtatgg actaggcact gggctatattt gctgtggcat  
 1020  
 aaatctgttc ccagagcttg tctgtggtgg cacaaaccgg ctggaggggc tatgtgagat  
 1080  
 agtggtttgt tgataattgg aagatgcagg actactgtgc atggaattc  
 1129

<210> 4184

<211> 374

<212> PRT

<213> Homo sapiens

<400> 4184

Met	His	Ser	Ser	Pro	Ala	Ser	Ser	Asn	Tyr	Gln	Gln	Thr	Thr	Ile	Ser
1				5				10						15	
His	Ser	Pro	Ser	Ser	Arg	Phe	Val	Pro	Pro	Gln	Thr	Ser	Ser	Gly	Asn
		20						25					30		
Arg	Phe	Met	Pro	Gln	Gln	Asn	Ser	Pro	Val	Pro	Ser	Pro	Tyr	Ala	Pro
		35				40					45				
Gln	Ser	Pro	Ala	Gly	Tyr	Met	Pro	Tyr	Ser	His	Pro	Ser	Ser	Tyr	Thr
	50					55				60					
Thr	His	Pro	Gln	Met	Gln	Gln	Ala	Ser	Val	Ser	Ser	Pro	Ile	Val	Ala
65					70				75					80	
Gly	Gly	Leu	Arg	Asn	Ile	His	Asp	Asn	Lys	Val	Ser	Gly	Pro	Leu	Ser
			85					90					95		
Gly	Asn	Ser	Ala	Asn	His	His	Ala	Asp	Asn	Pro	Arg	His	Gly	Ser	Ser
		100						105					110		
Glu	Asp	Tyr	Leu	His	Met	Val	His	Arg	Leu	Ser	Ser	Asp	Asp	Gly	Asp
		115					120					125			
Ser	Ser	Thr	Met	Arg	Asn	Ala	Ala	Ser	Phe	Pro	Leu	Arg	Ser	Pro	Gln
		130				135					140				
Pro	Val	Cys	Ser	Pro	Ala	Gly	Ser	Glu	Gly	Thr	Pro	Lys	Gly	Ser	Arg
145					150					155				160	
Pro	Pro	Leu	Ile	Leu	Gln	Ser	Gln	Ser	Leu	Pro	Cys	Ser	Ser	Pro	Arg
			165					170					175		
Asp	Val	Pro	Pro	Asp	Ile	Leu	Leu	Asp	Ser	Pro	Glu	Arg	Lys	Gln	Lys
		180						185					190		
Lys	Gln	Lys	Lys	Met	Lys	Leu	Gly	Lys	Asp	Glu	Lys	Glu	Gln	Ser	Glu
		195					200					205			
Lys	Ala	Ala	Met	Tyr	Asp	Ile	Ile	Ser	Ser	Pro	Ser	Lys	Asp	Ser	Thr
		210				215						220			
Lys	Leu	Thr	Leu	Arg	Leu	Ser	Arg	Val	Arg	Ser	Ser	Asp	Met	Asp	Gln
225					230					235				240	
Gln	Glu	Asp	Met	Leu	Ser	Gly	Met	Glu	Asn	Ser	Asn	Val	Ser	Glu	Asn
			245					250					255		
Asp	Ile	Pro	Phe	Asn	Val	Gln	Tyr	Gln	Gly	Gln	Thr	Ser	Lys	Thr	Pro
		260						265					270		
Ile	Thr	Pro	Gln	Asp	Val	Asn	Arg	Pro	Leu	Asn	Ala	Ala	Gln	Cys	Leu

275	280	285
Ser Gln Gln Glu Gln Thr	Ala Phe Leu Pro Ala	Asn Gln Val Pro Val
290	295	300
Leu Gln Gln Asn Thr Ser	Val Ala Thr Lys Gln	Pro Gln Thr Ser Val
305	310	315
Val Gln Asn Gln Gln Gln	Ile Ser Gln Gln Gly	Pro Ile Tyr Asp Glu
325	330	335
Val Glu Leu Asp Ala Leu	Ala Glu Ile Glu Arg	Ile Glu Arg Glu Ser
340	345	350
Ala Ile Glu Arg Glu Arg	Phe Ser Lys Glu Val	Gln Asp Lys Asp Lys
355	360	365
Pro Leu Lys Lys Lys Lys		
370		

&lt;210&gt; 4185

&lt;211&gt; 1481

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4185

```

ntggtgttta agagtttgga caaaaagaat gatggacgca ttgacgcgca ggagatcatg
60
cagtccttgc gggacttggg agtcaagata tctgaacagc aggcagaaaa aattctcaag
120
agcatggata aaaacggcac gatgaccatc gactggaacg agtggagaga ctaccacctc
180
ctccaccccg tggaaaacat ccccgagatc atcctctact ggaagcattc cacgatcttt
240
gatgtgggtg agaatctaac ggtcccggat gagttcacag tggaggagag gcagacgggg
300
atgtggtgga gacacctggt ggcaggaggt ggggcagggg ccgtatccag aacctgcacg
360
gcccccttg acaggetcaa ggtgctcatg cagggtccatg cctcccgcag caacaacatg
420
ggcatcggtg gtggcttcac tcagatgatt cgagaaggag gggccagggtc actctggcgg
480
ggcaatggca tcaacgtcct caaaattgcc cccgaatcag ccatcaaatt catggcctat
540
gagcagatca agcgccttgt tggtagtgac caggagactc tgaggattca cgagaggctt
600
gtggcagggt ccttggcagg ggccatcgcc cagagcagca tctacccaat ggaggtcctg
660
aagaccggga tggcgtgctg gaagacaggc cagtactcag gaatgctgga ctgcgccagg
720
aggatcctgg ccagagaggg ggtggccgcc ttctacaaag gctatgtccc caacatgctg
780
ggcatcatcc cctatgccgg catcgacctt gcagtctacg agacgtcaa gaatgcctgg
840
ctgcagcact atgcagtga cagcgcggac cccggcgtgt ttgtgctcct ggccgtggtg
900
accatgtcca gtacctgtgg ccagctggcc agctaccccc tggccctagt caggaccggg
960
atgcaggcgc aagcctctat tgagggcgct ccggagggtga ccatgagcag cctcttcaaa
1020

```

catatcctgc ggaccgaggg ggccttcggg ctgtacaggg ggctggcccc caacttcacg  
 1080  
 aaggtcatcc cagctgtgag catcagctac gtggtctacg agaacctgaa gatcaccctg  
 1140  
 ggcgtgcagt cgcggtgacg gggggagggc cgcccgagcag tggactcgct gatcctgggc  
 1200  
 cgcagcctgg ggtgtgcagc catctcattc tgtgaatgtg ccaacactaa gctgtctcga  
 1260  
 gccaaagctgt gaaaacccta gacgcacccg cagggagggg ggggagagct ggcaggccca  
 1320  
 gggcttgtcc tgctgacccc agcagacctt cctgttggtt ccagcgaaga ccacaggcat  
 1380  
 tccttagggg ccagggtcag caggctccgg gctcacatgt gtaaggacag gacattttct  
 1440  
 gcagtgcctg ccaatagtga gcttgagacc tggaggccgg c  
 1481

<210> 4186

<211> 385

<212> PRT

<213> Homo sapiens

<400> 4186

Xaa	Val	Phe	Lys	Ser	Leu	Asp	Lys	Lys	Asn	Asp	Gly	Arg	Ile	Asp	Ala
1				5					10					15	
Gln	Glu	Ile	Met	Gln	Ser	Leu	Arg	Asp	Leu	Gly	Val	Lys	Ile	Ser	Glu
			20					25					30		
Gln	Gln	Ala	Glu	Lys	Ile	Leu	Lys	Ser	Met	Asp	Lys	Asn	Gly	Thr	Met
		35					40					45			
Thr	Ile	Asp	Trp	Asn	Glu	Trp	Arg	Asp	Tyr	His	Leu	Leu	His	Pro	Val
	50				55					60					
Glu	Asn	Ile	Pro	Glu	Ile	Leu	Tyr	Trp	Lys	His	Ser	Thr	Ile	Phe	
65				70					75					80	
Asp	Val	Gly	Glu	Asn	Leu	Thr	Val	Pro	Asp	Glu	Phe	Thr	Val	Glu	Glu
				85					90					95	
Arg	Gln	Thr	Gly	Met	Trp	Trp	Arg	His	Leu	Val	Ala	Gly	Gly	Gly	Ala
			100					105					110		
Gly	Ala	Val	Ser	Arg	Thr	Cys	Thr	Ala	Pro	Leu	Asp	Arg	Leu	Lys	Val
		115					120					125			
Leu	Met	Gln	Val	His	Ala	Ser	Arg	Ser	Asn	Asn	Met	Gly	Ile	Val	Gly
	130					135					140				
Gly	Phe	Thr	Gln	Met	Ile	Arg	Glu	Gly	Gly	Ala	Arg	Ser	Leu	Trp	Arg
145				150					155					160	
Gly	Asn	Gly	Ile	Asn	Val	Leu	Lys	Ile	Ala	Pro	Glu	Ser	Ala	Ile	Lys
				165					170					175	
Phe	Met	Ala	Tyr	Glu	Gln	Ile	Lys	Arg	Leu	Val	Gly	Ser	Asp	Gln	Glu
			180					185					190		
Thr	Leu	Arg	Ile	His	Glu	Arg	Leu	Val	Ala	Gly	Ser	Leu	Ala	Gly	Ala
		195					200					205			
Ile	Ala	Gln	Ser	Ser	Ile	Tyr	Pro	Met	Glu	Val	Leu	Lys	Thr	Arg	Met
	210					215					220				
Ala	Leu	Arg	Lys	Thr	Gly	Gln	Tyr	Ser	Gly	Met	Leu	Asp	Cys	Ala	Arg
225				230						235				240	
Arg	Ile	Leu	Ala	Arg	Glu	Gly	Val	Ala	Ala	Phe	Tyr	Lys	Gly	Tyr	Val



245 250 255  
 Pro Asn Met Leu Gly Ile Ile Pro Tyr Ala Gly Ile Asp Leu Ala Val  
 260 265 270  
 Tyr Glu Thr Leu Lys Asn Ala Trp Leu Gln His Tyr Ala Val Asn Ser  
 275 280 285  
 Ala Asp Pro Gly Val Phe Val Leu Leu Ala Cys Gly Thr Met Ser Ser  
 290 295 300  
 Thr Cys Gly Gln Leu Ala Ser Tyr Pro Leu Ala Leu Val Arg Thr Arg  
 305 310 315 320  
 Met Gln Ala Gln Ala Ser Ile Glu Gly Ala Pro Glu Val Thr Met Ser  
 325 330 335  
 Ser Leu Phe Lys His Ile Leu Arg Thr Glu Gly Ala Phe Gly Leu Tyr  
 340 345 350  
 Arg Gly Leu Ala Pro Asn Phe Met Lys Val Ile Pro Ala Val Ser Ile  
 355 360 365  
 Ser Tyr Val Val Tyr Glu Asn Leu Lys Ile Thr Leu Gly Val Gln Ser  
 370 375 380  
 Arg  
 385

&lt;210&gt; 4187

&lt;211&gt; 1087

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4187

ntggccattg accgagcctg cccagaaagc gcttctctcc ttgggtcaccc tcgagtcctg  
 60  
 gctgattctt ttctgacag ttcccttat gaggggtaca actatggctc ctttgagaat  
 120  
 gtttctggat ctaccgatgg tctgggtgac agcgtggca ctggggacct ctcttacggt  
 180  
 taccagggcc gctccttga acctgtaggt actcgccccc gactggactc catgagctct  
 240  
 gtggaggagg atgactacga cacattgacc gacatcgatt ccgacaagaa tgtcattcgc  
 300  
 accaagcaat acctctatgt ggctgacctg gcacggaagg acaagcgtgt tctgcggaaa  
 360  
 aagtaccaga tctacttctg gaacattgcc accattgctg tcttctatgc ccttctctg  
 420  
 gtgcagctgg tgatcaccta cccagaggnn gnggatgta cnaggggatc nagggacatc  
 480  
 tgctcntcna acttctctg cgccaccca ctgggcaatc tcagcgcctt caacaacatc  
 540  
 ctgagcaacc tggggtacat cctgctgggg ctgcttttcc tgctcatcat cctgcaacgg  
 600  
 gagatcaacc acaaccgggc cctgctgctc aatgacctct gtgccttggga atgtgggatc  
 660  
 cccaaacact ttgggctttt ctacgccatg ggcacagccc tgatgatgga ggggctgctc  
 720  
 agtgcttgct atcatgtgtg ccccaactat accaatttcc agtttggtga gtggggcgtc  
 780  
 cttcttttct ggctcaacct acagcaggga cctgcctgag tccttacta tccccaagtc  
 840

accacacaggg atcgctaaga cacccttgta ggaaactcca aggctggcgt gcctgggtgt  
 900  
 gcacacatcc tagcctatgg aacatgggca cctagatgct gcttcattca tctgtcaagg  
 960  
 tattcctatg taaaggcatg tgccgcagtg aagaaaacag tataattaag aaggggtccc  
 1020  
 tggccgggtg cagtggctca cgcctgtaat cccagcactt tgggaggcag aggcgggtgg  
 1080  
 atcatga  
 1087

<210> 4188

<211> 272

<212> PRT

<213> Homo sapiens

<400> 4188

Xaa	Ala	Ile	Asp	Arg	Ala	Cys	Pro	Glu	Ser	Ala	Ser	Leu	Leu	Gly	His
1				5					10					15	
Pro	Arg	Val	Leu	Ala	Asp	Ser	Phe	Pro	Asp	Ser	Ser	Pro	Tyr	Glu	Gly
		20						25				30			
Tyr	Asn	Tyr	Gly	Ser	Phe	Glu	Asn	Val	Ser	Gly	Ser	Thr	Asp	Gly	Leu
		35					40				45				
Val	Asp	Ser	Ala	Gly	Thr	Gly	Asp	Leu	Ser	Tyr	Gly	Tyr	Gln	Gly	Arg
		50				55					60				
Ser	Phe	Glu	Pro	Val	Gly	Thr	Arg	Pro	Arg	Val	Asp	Ser	Met	Ser	Ser
65					70					75				80	
Val	Glu	Glu	Asp	Asp	Tyr	Asp	Thr	Leu	Thr	Asp	Ile	Asp	Ser	Asp	Lys
			85					90					95		
Asn	Val	Ile	Arg	Thr	Lys	Gln	Tyr	Leu	Tyr	Val	Ala	Asp	Leu	Ala	Arg
		100					105						110		
Lys	Asp	Lys	Arg	Val	Leu	Arg	Lys	Tyr	Gln	Ile	Tyr	Phe	Trp	Asn	
		115				120					125				
Ile	Ala	Thr	Ile	Ala	Val	Phe	Tyr	Ala	Leu	Pro	Val	Val	Gln	Leu	Val
		130				135					140				
Ile	Thr	Tyr	Pro	Glu	Xaa	Gly	Gly	Cys	Thr	Arg	Gly	Ser	Arg	Asp	Ile
145					150					155				160	
Cys	Ser	Ser	Asn	Phe	Leu	Cys	Ala	His	Pro	Leu	Gly	Asn	Leu	Ser	Ala
			165					170					175		
Phe	Asn	Asn	Ile	Leu	Ser	Asn	Leu	Gly	Tyr	Ile	Leu	Leu	Gly	Leu	Leu
		180						185					190		
Phe	Leu	Leu	Ile	Ile	Leu	Gln	Arg	Glu	Ile	Asn	His	Asn	Arg	Ala	Leu
		195				200						205			
Leu	Arg	Asn	Asp	Leu	Cys	Ala	Leu	Glu	Cys	Gly	Ile	Pro	Lys	His	Phe
		210				215					220				
Gly	Leu	Phe	Tyr	Ala	Met	Gly	Thr	Ala	Leu	Met	Met	Glu	Gly	Leu	Leu
225					230					235				240	
Ser	Ala	Cys	Tyr	His	Val	Cys	Pro	Asn	Tyr	Thr	Asn	Phe	Gln	Phe	Gly
			245					250					255		
Glu	Trp	Gly	Val	Leu	Leu	Phe	Trp	Leu	Asn	Leu	Gln	Gln	Gly	Pro	Ala
		260						265					270		

<210> 4189

<211> 1570

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4189

agatctattc gatcttttgc taatgatgat cgccatgtta tggtgaaaca ttcaacaatc  
60  
tatccatctc cggaggaact tgaagctgtt cagaatatgg tatctactgt tgaatgtgct  
120  
cttaaacatg tctcagattg gttggatgaa acaaataaag gcacaaaaac agaggggtgag  
180  
acagaagtga agaaagatga ggccggagaa aactattcca aggatcaagg tggcgggaca  
240  
ttgtgtggtg taatgaggat tggcctgggt gcaaaaggct tgctgattaa agatgatatg  
300  
gacttggagc tggttttaat gtgcaaagac aaaccacag agaccctgtt aaatacagtc  
360  
aaagataatc ttcctattca gattcagaaa ctacacagaag agaaatatca agtggaaaca  
420  
tgtgtaaatg aggcattctat tataattcgg aatacaaaag agcccacgct aactttgaag  
480  
gtgatactta cctcacctct aattagggac gaattggaga agaaggatgg agaaaatgtt  
540  
tcgatgaaag atcctccgga cttattggac aggcagaaat gcctgaacgc cttggcgtct  
600  
cttcgacatg ccaaattggt tcaggcaagg gcaaattgat taaaatcatg tgtaattgtc  
660  
ctccgcatte tgcgtgattt gtgcaacaga gtcccccacat gggcaccatt gaaaggatgg  
720  
ccactagaac ttatatgtga aaagtctata ggtacttgta atagaccttt gggcgctggg  
780  
gaggccttga gacgagtaat ggagtgtttg gcatctggaa tactacttcc tgggggtcct  
840  
ggtcttcatg atccttgtga gcgagacca acagatgctc tgagctatat gaccatccag  
900  
caaaaagaag atattacca cagtgcacag catgcactca gactatcagc ctttggtcag  
960  
atttacaag tgctggagat ggacccccctt ccattctagta agccttttca gaagtattcc  
1020  
tggtcagtta ctgataaaga aggtgctggg tcttcagctc taaagaggcc atttgaagat  
1080  
ggattagggg atgataaaga cccaacaag aagatgaaac gaaacttaag gaaaattctg  
1140  
gatagtaaag caatagacct tatgaatgca ctaatgaggc taaatcagat caggcctggg  
1200  
cttcagtata agctcctatc tcagtctggc cccgttcatg cccagctctt cacaatgtct  
1260  
gtagatgtgg atggcacaac atatgaagcc tcaggaccat ccaagaaaac agcaaaactt  
1320  
cacgtagcgg tgaaggtatt gcaggcaatg ggatatccaa caggccttga tgcagatatt  
1380  
gaatgtatga gttccgatga aaaaagaaga ggtctcaagt atgaactcat ctcagagact  
1440  
ggtggaagcc atgacaagcg ctttgaatg gaggtagaag tagatggaca gaaattcaga  
1500

ggcgcaggtc caaataagaa agtggcaaag gcgagtgcag ctttactcgc tnnatggagaa  
 1560  
 actgttttct  
 1570

<210> 4190  
 <211> 523  
 <212> PRT  
 <213> Homo sapiens

<400> 4190

Arg	Ser	Ile	Arg	Ser	Phe	Ala	Asn	Asp	Asp	Arg	His	Val	Met	Val	Lys
1				5					10					15	
His	Ser	Thr	Ile	Tyr	Pro	Ser	Pro	Glu	Glu	Leu	Glu	Ala	Val	Gln	Asn
			20					25					30		
Met	Val	Ser	Thr	Val	Glu	Cys	Ala	Leu	Lys	His	Val	Ser	Asp	Trp	Leu
			35				40					45			
Asp	Glu	Thr	Asn	Lys	Gly	Thr	Lys	Thr	Glu	Gly	Glu	Thr	Glu	Val	Lys
			50			55					60				
Lys	Asp	Glu	Ala	Gly	Glu	Asn	Tyr	Ser	Lys	Asp	Gln	Gly	Gly	Arg	Thr
65					70					75				80	
Leu	Cys	Gly	Val	Met	Arg	Ile	Gly	Leu	Val	Ala	Lys	Gly	Leu	Leu	Ile
				85				90					95		
Lys	Asp	Asp	Met	Asp	Leu	Glu	Leu	Val	Leu	Met	Cys	Lys	Asp	Lys	Pro
			100					105					110		
Thr	Glu	Thr	Leu	Leu	Asn	Thr	Val	Lys	Asp	Asn	Leu	Pro	Ile	Gln	Ile
			115				120						125		
Gln	Lys	Leu	Thr	Glu	Glu	Lys	Tyr	Gln	Val	Glu	Gln	Cys	Val	Asn	Glu
			130			135					140				
Ala	Ser	Ile	Ile	Ile	Arg	Asn	Thr	Lys	Glu	Pro	Thr	Leu	Thr	Leu	Lys
145					150					155				160	
Val	Ile	Leu	Thr	Ser	Pro	Leu	Ile	Arg	Asp	Glu	Leu	Glu	Lys	Lys	Asp
				165					170					175	
Gly	Glu	Asn	Val	Ser	Met	Lys	Asp	Pro	Pro	Asp	Leu	Leu	Asp	Arg	Gln
			180					185					190		
Lys	Cys	Leu	Asn	Ala	Leu	Ala	Ser	Leu	Arg	His	Ala	Lys	Trp	Phe	Gln
			195				200					205			
Ala	Arg	Ala	Asn	Gly	Leu	Lys	Ser	Cys	Val	Ile	Val	Leu	Arg	Ile	Leu
			210			215					220				
Arg	Asp	Leu	Cys	Asn	Arg	Val	Pro	Thr	Trp	Ala	Pro	Leu	Lys	Gly	Trp
225				230						235				240	
Pro	Leu	Glu	Leu	Ile	Cys	Glu	Lys	Ser	Ile	Gly	Thr	Cys	Asn	Arg	Pro
				245					250					255	
Leu	Gly	Ala	Gly	Glu	Ala	Leu	Arg	Arg	Val	Met	Glu	Cys	Leu	Ala	Ser
			260					265					270		
Gly	Ile	Leu	Leu	Pro	Gly	Gly	Pro	Gly	Leu	His	Asp	Pro	Cys	Glu	Arg
			275				280					285			
Asp	Pro	Thr	Asp	Ala	Leu	Ser	Tyr	Met	Thr	Ile	Gln	Gln	Lys	Glu	Asp
			290			295					300				
Ile	Thr	His	Ser	Ala	Gln	His	Ala	Leu	Arg	Leu	Ser	Ala	Phe	Gly	Gln
305					310					315					320
Ile	Tyr	Lys	Val	Leu	Glu	Met	Asp	Pro	Leu	Pro	Ser	Ser	Lys	Pro	Phe
				325					330					335	
Gln	Lys	Tyr	Ser	Trp	Ser	Val	Thr	Asp	Lys	Glu	Gly	Ala	Gly	Ser	Ser

340 345 350  
 Ala Leu Lys Arg Pro Phe Glu Asp Gly Leu Gly Asp Asp Lys Asp Pro  
 355 360 365  
 Asn Lys Lys Met Lys Arg Asn Leu Arg Lys Ile Leu Asp Ser Lys Ala  
 370 375 380  
 Ile Asp Leu Met Asn Ala Leu Met Arg Leu Asn Gln Ile Arg Pro Gly  
 385 390 395 400  
 Leu Gln Tyr Lys Leu Leu Ser Gln Ser Gly Pro Val His Ala Pro Val  
 405 410 415  
 Phe Thr Met Ser Val Asp Val Asp Gly Thr Thr Tyr Glu Ala Ser Gly  
 420 425 430  
 Pro Ser Lys Lys Thr Ala Lys Leu His Val Ala Val Lys Val Leu Gln  
 435 440 445  
 Ala Met Gly Tyr Pro Thr Gly Phe Asp Ala Asp Ile Glu Cys Met Ser  
 450 455 460  
 Ser Asp Glu Lys Arg Arg Gly Leu Lys Tyr Glu Leu Ile Ser Glu Thr  
 465 470 475 480  
 Gly Gly Ser His Asp Lys Arg Phe Val Met Glu Val Glu Val Asp Gly  
 485 490 495  
 Gln Lys Phe Arg Gly Ala Gly Pro Asn Lys Lys Val Ala Lys Ala Ser  
 500 505 510  
 Ala Ala Leu Leu Ala Xaa Gly Glu Thr Val Phe  
 515 520

&lt;210&gt; 4191

&lt;211&gt; 1661

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4191

nngccggcga cagtcgggggt tgcgagcggc cgggggccgg ggcggccagg gccgctgcag  
 60  
 gacgagaccc tgggtgtggc gtccgtgccc tcgcagtggg gggccgtcca gggcatccgc  
 120  
 ggggagacga aaagttgcca gacggccagc attgccactg ccagtgcac cggccaggcc  
 180  
 aggaatcatg tggacgcca ggtgcagacg gagggccccc tgcctgtcag cgtgcagccc  
 240  
 ccgtcccagt acgacatacc caggctcgca gcctttcttc ggagagtggg ggccatggtc  
 300  
 atccgagagc tgaacaagaa ttggcagagc cagcgcttg atggcttcga ggtgaactgg  
 360  
 accgagcagc agcagatggg gtcttgtctg tataccctgg gctacccgcc agcccaagcg  
 420  
 caggggtctgc atgtgaccag catctctgg aactccactg gctctgtggg ggcctgtgccc  
 480  
 taaggccggc tggaccatgg ggactggagc acgcttaagt ccttcgtgtg tgcctggaac  
 540  
 ctggaccggc gagacctgcg tccccagcaa ccgtcggccg tgggtggagg cccagcgct  
 600  
 gtcctgtgtc tggccttcca cccacgcag cctccacag tcgcaggagg gctgtacagt  
 660  
 ggtgaggtgt tgggtgtggg cctgagccgt cttgaggacc cgctgctgtg gcgcacaggc  
 720

ctgacggatg acacccacac agaccctgtg tcccaggtgg tgtggctgcc cgagcctggg  
 780  
 cacagccacc gcttccaggt gctgagtgtg gccactgacg ggaaggtgct actctggcag  
 840  
 ggcatcgggg taggccagct gcagctcaca gagggcttcg ccctgggtcat gcagcagctg  
 900  
 ccacggagca ccaagctcaa gaagcatccc cgcggggaga ccgaggtggg cgccacggca  
 960  
 gtggccttct ccagctttga ccctaggctg ttcattcttg gcacggaagg cggttccccg  
 1020  
 ctcaagtgtt ccctggcagc tggagaggca gccctcacgc ggatgccag ctccgtgccc  
 1080  
 ctgcggggcc cagcacagtt taccttctcc cccacggcg gtcccatcta ctctgtgagc  
 1140  
 tgttccccct tccacaggaa tctcttctg agcgtggga ctgacgggca tgtccacctg  
 1200  
 tactccatgc tgcaggcccc tcccttgact tcgctgcagc tctccctcaa gtatctgttt  
 1260  
 gctgtgcgct ggtccccagt gcggcccttg gtttttgag ctgcctctgg gaaaggtgac  
 1320  
 gtgcagctgt ttgatctcca gaaaagctcc cagaaacca cagttttgat caagcaaacc  
 1380  
 caggatgaaa gccctgtcta ctgtctggag ttcaacagcc agcagactca gctcttggt  
 1440  
 gcgggcatg cccagggcac agtgaagggtg tggcagctga gcacagagtt cacggaacaa  
 1500  
 gggccccggg aagctgagga cctggactgc ctggcagcag aggtggcggc ctgaggggtc  
 1560  
 ccgggaggcg ggtgcaagcc ttcgctgtgc cgagccttgt gtttctgacg caagccaaat  
 1620  
 gaagaaaagc aaagctttaa aaaaaaaaaa aaaaaaaaaa a  
 1661

&lt;210&gt; 4192

&lt;211&gt; 517

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4192

Xaa Pro Ala Thr Val Gly Val Ala Ser Gly Pro Gly Pro Gly Arg Pro  
 1 5 10 15  
 Gly Pro Leu Gln Asp Glu Thr Leu Gly Val Ala Ser Val Pro Ser Gln  
 20 25 30  
 Trp Arg Ala Val Gln Gly Ile Arg Gly Glu Thr Lys Ser Cys Gln Thr  
 35 40 45  
 Ala Ser Ile Ala Thr Ala Ser Ala Ser Ala Gln Ala Arg Asn His Val  
 50 55 60  
 Asp Ala Gln Val Gln Thr Glu Ala Pro Val Pro Val Ser Val Gln Pro  
 65 70 75 80  
 Pro Ser Gln Tyr Asp Ile Pro Arg Leu Ala Ala Phe Leu Arg Arg Val  
 85 90 95  
 Glu Ala Met Val Ile Arg Glu Leu Asn Lys Asn Trp Gln Ser His Ala  
 100 105 110  
 Phe Asp Gly Phe Glu Val Asn Trp Thr Glu Gln Gln Gln Met Val Ser

```

      115      120      125
Cys Leu Tyr Thr Leu Gly Tyr Pro Pro Ala Gln Ala Gln Gly Leu His
      130      135      140
Val Thr Ser Ile Ser Trp Asn Ser Thr Gly Ser Val Val Ala Cys Ala
145      150      155      160
Tyr Gly Arg Leu Asp His Gly Asp Trp Ser Thr Leu Lys Ser Phe Val
      165      170      175
Cys Ala Trp Asn Leu Asp Arg Arg Asp Leu Arg Pro Gln Gln Pro Ser
      180      185      190
Ala Val Val Glu Val Pro Ser Ala Val Leu Cys Leu Ala Phe His Pro
      195      200      205
Thr Gln Pro Ser His Val Ala Gly Gly Leu Tyr Ser Gly Glu Val Leu
      210      215      220
Val Trp Asp Leu Ser Arg Leu Glu Asp Pro Leu Leu Trp Arg Thr Gly
225      230      235      240
Leu Thr Asp Asp Thr His Thr Asp Pro Val Ser Gln Val Val Trp Leu
      245      250      255
Pro Glu Pro Gly His Ser His Arg Phe Gln Val Leu Ser Val Ala Thr
      260      265      270
Asp Gly Lys Val Leu Leu Trp Gln Gly Ile Gly Val Gly Gln Leu Gln
      275      280      285
Leu Thr Glu Gly Phe Ala Leu Val Met Gln Gln Leu Pro Arg Ser Thr
      290      295      300
Lys Leu Lys Lys His Pro Arg Gly Glu Thr Glu Val Gly Ala Thr Ala
305      310      315      320
Val Ala Phe Ser Ser Phe Asp Pro Arg Leu Phe Ile Leu Gly Thr Glu
      325      330      335
Gly Gly Phe Pro Leu Lys Cys Ser Leu Ala Ala Gly Glu Ala Ala Leu
      340      345      350
Thr Arg Met Pro Ser Ser Val Pro Leu Arg Ala Pro Ala Gln Phe Thr
      355      360      365
Phe Ser Pro His Gly Gly Pro Ile Tyr Ser Val Ser Cys Ser Pro Phe
      370      375      380
His Arg Asn Leu Phe Leu Ser Ala Gly Thr Asp Gly His Val His Leu
385      390      395      400
Tyr Ser Met Leu Gln Ala Pro Pro Leu Thr Ser Leu Gln Leu Ser Leu
      405      410      415
Lys Tyr Leu Phe Ala Val Arg Trp Ser Pro Val Arg Pro Leu Val Phe
      420      425      430
Ala Ala Ala Ser Gly Lys Gly Asp Val Gln Leu Phe Asp Leu Gln Lys
      435      440      445
Ser Ser Gln Lys Pro Thr Val Leu Ile Lys Gln Thr Gln Asp Glu Ser
      450      455      460
Pro Val Tyr Cys Leu Glu Phe Asn Ser Gln Gln Thr Gln Leu Leu Ala
465      470      475      480
Ala Gly Asp Ala Gln Gly Thr Val Lys Val Trp Gln Leu Ser Thr Glu
      485      490      495
Phe Thr Glu Gln Gly Pro Arg Glu Ala Glu Asp Leu Asp Cys Leu Ala
      500      505      510
Ala Glu Val Ala Ala
      515

```

&lt;210&gt; 4193

&lt;211&gt; 6439

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4193

gaattccggc gtcgcgagc catcccagtc tgggcgggac gtcggccgc ggcgaggcgg  
60  
gcaagcctgg cagggcagag ggagccccgg ctccgaggtt gctcttcgcc cccgaggatc  
120  
agtcttgccc ccaaagcgcg acgcacaaat ccacataacc tgaggaccat ggatgctgat  
180  
gaggggtcaag acatgtccca agtttcaggg aaggaaagcc cccctgtaag cgatactcca  
240  
gatgaggcgg atgagcccat gccgatcccc gaggacctct ccaccacctc gggaggacag  
300  
caaagctcca agagtgcag agtcgtggcc agtaatgtta aagtagagac tcagagtgat  
360  
gaagagaatg ggcgtgcctg tgaaatgaat ggggaagaat gtgcggagga ttacgaatg  
420  
cttgatgcct cgggagagaa aatgaatggc tcccacagg accaaggcag ctcggtttg  
480  
tcgggagttg gaggcattcg acttctaacc ggaaaactaa agtgtgatat ctgtgggac  
540  
atttgcacg ggcccaatgt gtcctggtt caaaaagaa gccacactgg agaacggccc  
600  
ttccagtgc atcagtgcgg ggctcattc acccagaagg gcaacctgt cggcacatc  
660  
aagctgcatt cgggggagaa gcccttcaa tgccacctct gcaactacgc ctgccgcgg  
720  
agggacgccc tcaactggcca cctgaggacg cactccgttg gtaaacctca caaatgtgga  
780  
tattgtggcc gaagctataa acagcgaagc tctttagagg aacataaaga gcgctgccac  
840  
aactacttgg aaagcatggg ccttccgggc aactgtacc cagtcattaa agaagaaact  
900  
aatcacagt aaatggcaga agacctgtgc aagataggat cagagagatc tctcgtgctg  
960  
gacagactag caagtaacgt cgccaaacgt aagagctcta tgcctcagaa atttcttggg  
1020  
gacaagggcc tgtccgacac gccctacgac agcagcgcca gctacgagaa ggagaacgaa  
1080  
atgatgaagt cccacgtgat ggaccaagcc atcaacaacg ccatcaacta cctggggggc  
1140  
gagtccttgc gcccgtggt gcagacgccc cgggcggtt ccgaggtggt cccggtcatc  
1200  
agcccgatgt accagctgca caagcgcctc gcggagggca ccccgcgctc caaccactcg  
1260  
gcccaggaca gcgcgtgga gaacctgtg ctgctctcca aggccaagtt ggtgcctcg  
1320  
gagcgcgagg cgtccccgag caacagctgt caagactcca cggacaccga gagcaacaac  
1380  
gaggagcagc gcagcgtct catctacctg accaaccaca tcgccccgca cgcgcgaac  
1440  
ggcttgtcgc tcaaggagga gcaccgcgc tacgacctgc tgcgcgcgc ctccgagaac  
1500



tcgcaggacg cgctccgcgt ggtcagcacc agcggggagc agatgaaggt gtacaagtgc  
1560  
gaacactgcc ggggtgctctt cctggatcac gtcattgtaca ccatccacat gggctgccac  
1620  
ggcttccgtg atccttttga gtgcaacatg tgcggctacc acagccagga ccggtacgag  
1680  
ttctcgtcgc acataacgcg aggggagcac cgcttccaça tgagctaaag ccctcccgcg  
1740  
ccccacccc agaccccgag ccaccccgag aaaagcacia ggactgccgc cttctcgctc  
1800  
ccgccagcag catagactgg actggaccag acaatgttgt gtttgatttt gtaactgttt  
1860  
tttggttttt gtttgagttg gttgattggg gtttgatttg cttttgaaaa gatttttatt  
1920  
tttagaggca gggctgcatt gggagcatcc agaactgcta ccttcctaga tgtttcccca  
1980  
gaccgctggc tgagattccc tcacctgtcg cttcctagaa tccccttctc caaacgatta  
2040  
gtctaaattt tcagagagaa atagataaaa cacgccacag cctgggaagg agcgtgctct  
2100  
accctgtgct aagcacgggg ttccgcgcacc aggtgtcttt ttccagtccc cagaagcaga  
2160  
gagcacagcc cctgctgtgt gggctctgcg gtgagcagac aggacagggtg tgccgccacc  
2220  
caagtgccaa gacacagcag ggccaacaac ctgtgccag gccagcttcg agctacatgc  
2280  
atctagggcg gagaggctgc acttgtgaga gaaaatactt atttcaagtc atattctgcg  
2340  
gtaggaaaat gattgggttg gggaaagtcg gtgtctgtca gactgccctg ggtggaggga  
2400  
gacgccgggt tagagccttt gggatcgctc tggattcact ggcttggggg aggctgttca  
2460  
gatggcctga gcctcccgag gcttgcgtgc ccgtaggagg agactgtctt ccctggggca  
2520  
tatctgggga gccctgttcc ccgctttttc actccatac ctttaatggc ccccaaaatc  
2580  
tgtcactaca atttaaacac cagtcccgaa atttggatct tctttctttt tgaatctctc  
2640  
aaacggcaac attcctcaga aaccaaagct ttatttcaaa tctcttctt ccctggctgg  
2700  
ttccatctag taccagaggc ctcttttctt gaagaaatcc aatcctagcc ctcatattaa  
2760  
ttatgtacat ctgctttag ccacaagcct gaatttctca gtgttggtta gtttctttac  
2820  
ctaccctcac tatatattat tctcgtttta aaaccataa aggagtgtt tagaacagtc  
2880  
attaattttc caactcaatg aaaatatgtg aagcccagca tctctgttgc taacacacag  
2940  
agctcacctg tttgaaacca agctttcaaa catgttgaag ctctttactg taaaggcaag  
3000  
ccagcatgtg tgtccacaca tacataggat ggctggctct gcacctgtag gatattggaa  
3060  
tgcacagggc aattgagggg ctgagccaga ccttcggaga gtaatgccac cagatcccct  
3120

aggaaagagg aggcaaatgg cactgcaggt gagaaccccg cccatccgtg ctatgacatg  
3180  
gaggcactga agcccgagga aggtgtgtgg agattctaata cccaacaagc aaggggtctcc  
3240  
ttcaagatta atgctatcaa tcattaaggt cattactctc aaccacctag gcaatgaaga  
3300  
atataccatt tcaaataattt acagtacttg tcttcaccaa cactgtccca aggtgaaatg  
3360  
aagcaacaga gaggaatgtg tacataagta cctcagcatt taatccaaac aggggttctt  
3420  
agtctcagca ctatgacatt ttgggtgac tacttatttg ttaggcggga gctctcctgt  
3480  
gcattgtagg ataattagca gtatccctgg tggctaccca atagacgcca gtagcacccc  
3540  
gaattgacaa cccaaactct ccagacatca ccaactgtcc cctgcgagga gaaatcactc  
3600  
ctgggggaga accactgacc caaatgaatt ctaaaccaat caaatgtctg ggaagccctc  
3660  
caagaaaaaa aatagaaaag cacttgaaga atattcccaa tattcccgtg cagcagtatc  
3720  
aaggctgact tgtgttcctg tggagtcatt ataaattcta taaatcaatt attccccttc  
3780  
ggtcttcaaa aatatatttc ctcataaaca tttgagtttt gttgaaaaga tggagtttac  
3840  
aaagatacca ttcttgagtc atggatttct ctgctcacag aaggggtgtg catttgga  
3900  
cggaataaaa caaaattgct gcaccaatgc actgagtga ggaagagaga cagaggatca  
3960  
agggcttttag acagcactcc ttcaatatgc aatcacagag aaagatgcgc cttatccaag  
4020  
ttaatatctc taagggtgaga gccttcttag agtcagtttg ttgcaaattt cacctactct  
4080  
gttcttttcc atccatcccc ctgagtcagt tgggtgaagg gagttatttt ttcaagtgga  
4140  
attcaaacia agtcaaacc agaactgtaa atagtgattg caggaattct ttctaaact  
4200  
gctttgcctt tctctctcac tgccttttat agccaatata aatgtctctt tgcacacctt  
4260  
ttgtgtggt tttatattgt aacaccattt ttctttgaaa ctattgtatt taaagtaagg  
4320  
tttcatatta tgcagcaag taattaactt atgtttaaaa ggtggccata tcatgtacca  
4380  
aaagttgctg aagtttctct tctagctggt aaagtaggag tttgcatgac ttcacacttt  
4440  
ttttgcgtag tttcttctgt tgtatgatgg cgtgagtggt tgtcttgggt accgctgtgt  
4500  
actactgtgt gcctagattc catgcactct cgttgtgttt gaagtaaata ttggagaccg  
4560  
gagggtaca ggttggcctg ttgattacag ctagttaatc ctgtgtcttg ttccgcccc  
4620  
tccctgacac cccagcttcc caggatgtgg aaagcctgga tctcagctcc ttgccccata  
4680  
tcccttctgt aatttgatc taaagagtgt gattatccta attcaagagt cactaaaact  
4740

catcacatta tcattgcata tcagcaaagg gttaaagtcct agcaccaatt gcttcacata  
4800  
ccagcatgtt ccatttccaa tttagaatta gccacataat aaaatcttag aatcttcctt  
4860  
gagaaagagc tgcctgagat gtagttttgt tatatggttc cccaccgacc atttttgtgc  
4920  
ttttttcttg ttttgttttg ttttgactgc actgtgagtt ttgtagtgtc ctcttcttgc  
4980  
caaaacaaac gcgagatgaa ctggacttat gtagacaaat cgtgatgcca gtgtatcctt  
5040  
cctttcttca gttccagcaa taatgaatgg tcaacttttt taaaatctag atcattggag  
5100  
accggagggg aacagggttg cctgttgatt acagctagta atcgctgtgt cttgttccgc  
5160  
cccctccctg acaccccagc ttcccaggat gtggaaagcc tggatctcag ctccctgccc  
5220  
catatccctt ctgtaatttg tacctaaaga gtgtgattat cctaattgat ctctctcatt  
5280  
catttcaatg tatttttact ttaagatgaa caaaattat tagacttatt taagatgtac  
5340  
aggcatcaga aaaaagaagc acataatgct tttggtgcga tggcactcac tgtgaacatg  
5400  
tgtaaccaca tattaatatg caatattgtt tccaatactt tctaatacag tttttataa  
5460  
tggtgtgtgt ggtgattgtt caggtcgaat ctgtgtatc cagtacagct ttaggtcttc  
5520  
agctgccctt ctggcgagta catgcacagg attgtaaatg agaaatgcag tcatatttcc  
5580  
agtctgcctc tatgatgatg ttaaattatt gctgttttagc tgtgaacaag ggatgtacca  
5640  
ctggaggaat agagtatcct tttgtacaca ttttgaaatg cttcttctgt agtगतगगग  
5700  
caaataaatg caacgaatac tctgtctgcc ctatcccggtg aagtcacacac tggcgtaaga  
5760  
gaaggcccag cagagcagga atctgcctag actttctccc aatgagatcc caatatgaga  
5820  
gggagaagag atgggcctca ggacagctgc aataccactt gggaacacat gtgggtgtctt  
5880  
gatgtggcca gcgcacgagt tcagcacaac gtacctcca tctacaacag tgctggacgt  
5940  
gggaattcta agtcccagtc ttgaggggtg gtggagatgg agggcaacaa gagatacatt  
6000  
tccagttctc cactgcagca tgcttcagtc attctgtgag tggccgggccc cagggccctc  
6060  
acaatttcac taccttgtct ttacatagt cataagaatt atcctcaaca tagccttttg  
6120  
acgtgtgaaa tcttgagtat tcatttacct tttctgatc tcttgaaaac agctgcctgc  
6180  
ctgcattgca cttctcttcc cgaggagtgg ggtaaattha aaagtcaagt tatagtttgg  
6240  
atgttagtat agaattttga aattgggaat taaaaatcag gactggggac tgggagacca  
6300  
aaaatttctg atcccatttc tgatggatgt gtcacacctt ttctgtcaaa ataaaatgtc  
6360

ttggagggtta tgactccttg gtgaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 6420  
 aaaaaaaaaa aaaaaaaaaa  
 6439

<210> 4194  
 <211> 519  
 <212> PRT  
 <213> Homo sapiens

<400> 4194.

Met	Asp	Ala	Asp	Glu	Gly	Gln	Asp	Met	Ser	Gln	Val	Ser	Gly	Lys	Glu
1				5					10					15	
Ser	Pro	Pro	Val	Ser	Asp	Thr	Pro	Asp	Glu	Gly	Asp	Glu	Pro	Met	Pro
20					25					30					
Ile	Pro	Glu	Asp	Leu	Ser	Thr	Thr	Ser	Gly	Gly	Gln	Gln	Ser	Ser	Lys
			35				40					45			
Ser	Asp	Arg	Val	Val	Ala	Ser	Asn	Val	Lys	Val	Glu	Thr	Gln	Ser	Asp
	50					55				60					
Glu	Glu	Asn	Gly	Arg	Ala	Cys	Glu	Met	Asn	Gly	Glu	Glu	Cys	Ala	Glu
65					70					75					80
Asp	Leu	Arg	Met	Leu	Asp	Ala	Ser	Gly	Glu	Lys	Met	Asn	Gly	Ser	His
				85					90					95	
Arg	Asp	Gln	Gly	Ser	Ser	Ala	Leu	Ser	Gly	Val	Gly	Gly	Ile	Arg	Leu
			100					105					110		
Pro	Asn	Gly	Lys	Leu	Lys	Cys	Asp	Ile	Cys	Gly	Ile	Ile	Cys	Ile	Gly
		115					120					125			
Pro	Asn	Val	Leu	Met	Val	His	Lys	Arg	Ser	His	Thr	Gly	Glu	Arg	Pro
	130					135					140				
Phe	Gln	Cys	Asn	Gln	Cys	Gly	Ala	Ser	Phe	Thr	Gln	Lys	Gly	Asn	Leu
145					150					155					160
Leu	Arg	His	Ile	Lys	Leu	His	Ser	Gly	Glu	Lys	Pro	Phe	Lys	Cys	His
				165					170					175	
Leu	Cys	Asn	Tyr	Ala	Cys	Arg	Arg	Arg	Asp	Ala	Leu	Thr	Gly	His	Leu
			180				185					190			
Arg	Thr	His	Ser	Val	Gly	Lys	Pro	His	Lys	Cys	Gly	Tyr	Cys	Gly	Arg
		195					200					205			
Ser	Tyr	Lys	Gln	Arg	Ser	Ser	Leu	Glu	Glu	His	Lys	Glu	Arg	Cys	His
	210					215					220				
Asn	Tyr	Leu	Glu	Ser	Met	Gly	Leu	Pro	Gly	Thr	Leu	Tyr	Pro	Val	Ile
225					230					235					240
Lys	Glu	Glu	Thr	Asn	His	Ser	Glu	Met	Ala	Glu	Asp	Leu	Cys	Lys	Ile
				245					250					255	
Gly	Ser	Glu	Arg	Ser	Leu	Val	Leu	Asp	Arg	Leu	Ala	Ser	Asn	Val	Ala
			260				265						270		
Lys	Arg	Lys	Ser	Ser	Met	Pro	Gln	Lys	Phe	Leu	Gly	Asp	Lys	Gly	Leu
		275					280					285			
Ser	Asp	Thr	Pro	Tyr	Asp	Ser	Ser	Ala	Ser	Tyr	Glu	Lys	Glu	Asn	Glu
	290					295					300				
Met	Met	Lys	Ser	His	Val	Met	Asp	Gln	Ala	Ile	Asn	Asn	Ala	Ile	Asn
305					310					315					320
Tyr	Leu	Gly	Ala	Glu	Ser	Leu	Arg	Pro	Leu	Val	Gln	Thr	Pro	Pro	Gly
				325					330					335	
Gly	Ser	Glu	Val	Val	Pro	Val	Ile	Ser	Pro	Met	Tyr	Gln	Leu	His	Lys

```

          340          345          350
Pro Leu Ala Glu Gly Thr Pro Arg Ser Asn His Ser Ala Gln Asp Ser
          355          360          365
Ala Val Glu Asn Leu Leu Leu Leu Ser Lys Ala Lys Leu Val Pro Ser
          370          375          380
Glu Arg Glu Ala Ser Pro Ser Asn Ser Cys Gln Asp Ser Thr Asp Thr
385          390          395          400
Glu Ser Asn Asn Glu Glu Gln Arg Ser Gly Leu Ile Tyr Leu Thr Asn
          405          410          415
His Ile Ala Pro His Ala Arg Asn Gly Leu Ser Leu Lys Glu Glu His
          420          425          430
Arg Ala Tyr Asp Leu Leu Arg Ala Ala Ser Glu Asn Ser Gln Asp Ala
          435          440          445
Leu Arg Val Val Ser Thr Ser Gly Glu Gln Met Lys Val Tyr Lys Cys
          450          455          460
Glu His Cys Arg Val Leu Phe Leu Asp His Val Met Tyr Thr Ile His
465          470          475          480
Met Gly Cys His Gly Phe Arg Asp Pro Phe Glu Cys Asn Met Cys Gly
          485          490          495
Tyr His Ser Gln Asp Arg Tyr Glu Phe Ser Ser His Ile Thr Arg Gly
          500          505          510
Glu His Arg Phe His Met Ser
          515

```

&lt;210&gt; 4195

&lt;211&gt; 1200

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4195

```

nngggaagtc ttcttcgagc cgtgtggacg aatttgccc aaccttttca taggagatgc
60
agctggtcct tactccctgc catggggctc tgcaagtttg ccaccctggc actgatcctg
120
ctggtgctgc tggaggctct ggcccaggcg gacacacaga agatggtgga agcccagcgt
180
ggggtcggcc ctagagcctg ctactccatc tggctcctcc tggcgccctac accccctctc
240
agccactgtc ttcagtctcc acagaaacag catcaagtgt gcggagacag gcggctgaaa
300
gccagcagca cgaactgccc gtcagagaag tgcacagcct gggccagata ctcccacagg
360
atggactcac tgcagaagca ggacctcgg aggcccaaga tccatggggc agtccaggca
420
tctccctacc agccgccac attggcttcg ctgcagcgt tgctgtgggt ccgtcagggt
480
gccacactga accatatcga tgaggctctg cccagcctct tctgtggaga tgcgtacgca
540
gccccggaca agagcaagct gatccagctg ggaatcacc acgttgtgaa tgccgctgca
600
ggcaagttcc aggtggacac aggtgccaaa ttctaccgtg gaatgtccct ggagtactat
660
ggcatcgagg cggacgacaa ccccttcttc gacctcagtg tctactttct gcctgttgc
720

```

cgatacatcc gagctgccct cagtgttccc caaggccgcg tgctggtaca ctgtgccatg  
780  
ggggaagcc gctctgccac acttgtcctg gccttcctca tgatctatga gaacatgacg  
840  
ctggtagagg ccatccagac ggtgcaggcc caccgcaata tctgccctaa ctcaggcttc  
900  
ctccggcagc tccaggttct ggacaaccga ctggggcgagg agacggggcg gttctgatct  
960  
ggcaggcagc caggatccct gacccttggc ccaacccac cagcctggcc ctgggaacag  
1020  
caggctctgc tgtttctagt gaccctgaga tgtaaacagc aagtgggggc tgaggcagag  
1080  
gcagggatag ctgggtggtg acctcttagc ggggtggattt ccctgaccca attcagagat  
1140  
tctttatgca aaagtgagtt cagtccatct ctataataaa atattcatcg tcataaaaaa  
1200

<210> 4196

<211> 318

<212> PRT

<213> Homo sapiens

<400> 4196

Xaa	Gly	Ser	Leu	Leu	Ala	Ala	Val	Trp	Thr	Asn	Leu	Ala	Gln	Pro	Phe
1				5					10					15	
His	Arg	Arg	Cys	Ser	Trp	Ser	Leu	Leu	Pro	Ala	Met	Gly	Leu	Cys	Thr
			20					25					30		
Phe	Ala	Thr	Leu	Ala	Leu	Ile	Leu	Val	Leu	Leu	Glu	Ala	Leu	Ala	
			35				40					45			
Gln	Ala	Asp	Thr	Gln	Lys	Met	Val	Glu	Ala	Gln	Arg	Gly	Val	Gly	Pro
			50				55				60				
Arg	Ala	Cys	Tyr	Ser	Ile	Trp	Leu	Leu	Leu	Ala	Pro	Thr	Pro	Pro	Leu
65					70					75					80
Ser	His	Cys	Leu	Gln	Ser	Pro	Gln	Lys	Gln	His	Gln	Val	Cys	Gly	Asp
				85					90					95	
Arg	Arg	Leu	Lys	Ala	Ser	Ser	Thr	Asn	Cys	Pro	Ser	Glu	Lys	Cys	Thr
			100					105					110		
Ala	Trp	Ala	Arg	Tyr	Ser	His	Arg	Met	Asp	Ser	Leu	Gln	Lys	Gln	Asp
			115				120					125			
Leu	Arg	Arg	Pro	Lys	Ile	His	Gly	Ala	Val	Gln	Ala	Ser	Pro	Tyr	Gln
			130				135					140			
Pro	Pro	Thr	Leu	Ala	Ser	Leu	Gln	Arg	Leu	Leu	Trp	Val	Arg	Gln	Ala
145					150					155					160
Ala	Thr	Leu	Asn	His	Ile	Asp	Glu	Val	Trp	Pro	Ser	Leu	Phe	Leu	Gly
				165					170					175	
Asp	Ala	Tyr	Ala	Ala	Arg	Asp	Lys	Ser	Lys	Leu	Ile	Gln	Leu	Gly	Ile
			180					185					190		
Thr	His	Val	Val	Asn	Ala	Ala	Ala	Gly	Lys	Phe	Gln	Val	Asp	Thr	Gly
			195				200						205		
Ala	Lys	Phe	Tyr	Arg	Gly	Met	Ser	Leu	Glu	Tyr	Tyr	Gly	Ile	Glu	Ala
			210				215					220			
Asp	Asp	Asn	Pro	Phe	Phe	Asp	Leu	Ser	Val	Tyr	Phe	Leu	Pro	Val	Ala
225					230					235					240
Arg	Tyr	Ile	Arg	Ala	Ala	Leu	Ser	Val	Pro	Gln	Gly	Arg	Val	Leu	Val

```

<400> 4198
Arg Leu Leu Ser Ile Val Gly Arg Gln Arg Ala Ser Pro Gly Trp Gln
 1             5             10             15
Asn Trp Ser Ser Ala Arg Asn Ser Ala Ser Ala Glu Ala Arg Ser
      20             25             30
Met Ala Leu Pro Thr Gln Ala Gln Val Val Ile Cys Gly Gly Gly Ile
      35             40             45
Thr Gly Thr Ser Val Ala His His Gln Ser Lys Met Gly Trp Lys Asp
 50             55             60
Ile Val Leu Leu Glu Gln Gly Arg Leu Ala Ala Gly Ser Thr Arg Phe
65             70             75             80
Cys Ala Gly Ile Leu Ser Thr Ala Arg His Leu Thr Ile Glu Gln Lys

```

	85		90		95										
Met	Ala	Asp	Tyr	Ser	Asn	Lys	Leu	Tyr	Tyr	Gln	Leu	Glu	Gln	Glu	Thr
	100							105					110		
Gly	Ile	Gln	Thr	Gly	Tyr	Thr	Arg	Thr	Gly	Ser	Ile	Phe	Leu	Ala	Gln
	115						120					125			
Thr	Gln	Asp	Arg	Leu	Ile	Ser	Leu	Lys	Arg	Ile	Asn	Ala	Gly	Leu	Lys
	130						135				140				
Tyr	Val	Arg	Val												
145															

&lt;210&gt; 4199

&lt;211&gt; 1769

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4199

```

nnatccgctc ggcttctctg gtctggctgc tgccgccgc cgggtgtccgc ccgtgtcgcg
60
ccggggcacc aaggagccgt tggaggggtcc gggcggaggc ccgctcgtgt ggaagtcgtc
120
gacgcgccg ctcgtccgtc ctcccgctcg ttctcgtcc cggccgccat catgctggcg
180
ctcatctccc gcctgctgga ctgggtccgt tcgctcttct ggaaggaaga gatggagctg
240
acgctcgtgg ggctgcagta ctcgggcaag accaccttcg tcaatgtcat cgcgtcaggt
300
caattcagtg aagatatgat acccacagtg ggcttcaaca tgaggaaggt aactaaaggt
360
aacgtcacia taaagatctg ggacatagga ggacaacccc gatttcgaag catgtgggag
420
cggatttgca gaggagtcaa tgctattgtt tacatgatag atgctgcaga tcgtgaaaag
480
atagaagctt cccgaaatga gctccacaac ctactggaca aaccacagtt acaaggaatt
540
ccagtgtctg tgcttgaaa caagcgagac cttccgggag cattggatga gaaggagctg
600
attgagaaaa tgaatctgtc tgctattcag gatagagaaa tttgtgtcta ttcaatttct
660
tgcaaagaaa aggataatat agatatcaca cttcagtggc ttattcagca ttcaaatctt
720
agaagaagct gaagcatctc ctgaagtctt ccagtccttc ttggctataa tctagaatt
780
attgtccggt cctctgaagt aattcccaga atacggtcct tcttaaacc cagaaattgc
840
ctttttcaga gtttatttct catgtgcact gctgaagatg aatatcccta atccttcata
900
aagaatcagc tagagttgtc atgataaagt cagcacacac aaaaaggctt cttacacata
960
cctgtcttaa accatgtgta gagctttaa aacagaaaaa aaaccata tacttatgac
1020
catcttaaat caagaaaatt gcatatttcc attctgggtc ttctgggcca gattttata
1080
ttggttttca gtaaagtgtc atctataata tttcattata gagtccagta gcttaatact
1140

```



gacactgact tgatacagca tgaagtttct agtgccacac acagtattta gaaaaccttt  
 1200  
 aggcgatgaat gactcatgtg ggatatatgt aaacataatg tttattttat ctcacaaatg  
 1260  
 catgtgaaat gtataattac atcttaggaa tccaaaatgg tctgcagaga gtgagcggag  
 1320  
 gcaccagatc aatgttggtt ctttgactg gtgagattct gcctgatgaa tattaagat  
 1380  
 atcctgcttt ctgagaactc tatcaccaga tggcagttgg gatatgggag gaactaaagc  
 1440  
 atcctgtttt gtatctgtcc agatcattat ttctgtctct tgttttttct tcttggttca  
 1500  
 ggatactttt ttaaggggtt gagaattgaa gattttccaa aagcgttcat gaatttagag  
 1560  
 cattccaccc aatataataa aacctgttaa gaatgtcagt ctttggtcaa acatctgttt  
 1620  
 gttctatctc cagtcattaa atcagtgtg ctgcatgaca ctcttaactc ctgacttttt  
 1680  
 atatccagtc ataaagttga ctttcagcac aaaagatact tataaacaaa taaaaaat  
 1740  
 ttatttttct ctcttactga tgtaagctt  
 1769

&lt;210&gt; 4200

&lt;211&gt; 186

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4200

Met	Leu	Ala	Leu	Ile	Ser	Arg	Leu	Leu	Asp	Trp	Phe	Arg	Ser	Leu	Phe
1				5					10					15	
Trp	Lys	Glu	Glu	Met	Glu	Leu	Thr	Leu	Val	Gly	Leu	Gln	Tyr	Ser	Gly
		20						25					30		
Lys	Thr	Thr	Phe	Val	Asn	Val	Ile	Ala	Ser	Gly	Gln	Phe	Ser	Glu	Asp
		35					40					45			
Met	Ile	Pro	Thr	Val	Gly	Phe	Asn	Met	Arg	Lys	Val	Thr	Lys	Gly	Asn
	50				55						60				
Val	Thr	Ile	Lys	Ile	Trp	Asp	Ile	Gly	Gly	Gln	Pro	Arg	Phe	Arg	Ser
65					70					75				80	
Met	Trp	Glu	Arg	Tyr	Cys	Arg	Gly	Val	Asn	Ala	Ile	Val	Tyr	Met	Ile
			85					90					95		
Asp	Ala	Ala	Asp	Arg	Glu	Lys	Ile	Glu	Ala	Ser	Arg	Asn	Glu	Leu	His
		100						105					110		
Asn	Leu	Leu	Asp	Lys	Pro	Gln	Leu	Gln	Gly	Ile	Pro	Val	Leu	Val	Leu
		115					120					125			
Gly	Asn	Lys	Arg	Asp	Leu	Pro	Gly	Ala	Leu	Asp	Glu	Lys	Glu	Leu	Ile
	130					135				140					
Glu	Lys	Met	Asn	Leu	Ser	Ala	Ile	Gln	Asp	Arg	Glu	Ile	Cys	Cys	Tyr
145				150					155					160	
Ser	Ile	Ser	Cys	Lys	Glu	Lys	Asp	Asn	Ile	Asp	Ile	Thr	Leu	Gln	Trp
			165					170					175		
Leu	Ile	Gln	His	Ser	Lys	Ser	Arg	Arg	Ser						
		180						185							

<210> 4201  
 <211> 917  
 <212> DNA  
 <213> Homo sapiens

<400> 4201  
 ctgcaggacc tggagaatac ctgccctctc cctgcaacat cctccttttc ctttgcttcc  
 60  
 ctctcaact accgcaacat ctggaaaaat ctgcttatcc tgggcttcac caacttcatt  
 120  
 gcccatgcca ttcgccactg ctaccagcct gtgggaggag gaggagccc atcggacttc  
 180  
 tacctgtgct ctctgtggc cagcggancc gcagccctgg cctgtgtctt cctgggggtc  
 240  
 accgtggacc gatttggccg ccggggcctc cttcttctct ccatgaccct taccggcatt  
 300  
 gcttccctgg tcctgtctgg cctgtgggat tatctgaacg aggtgccat caccactttc  
 360  
 tctgtccttg ggctcttctc ctcccaagct gccgccatcc tcagcaccct ccttgtgtgt  
 420  
 gaggtcatcc ccaccactgt ccggggccgt ggcctgggccc tgatcatggc tctaggggag  
 480  
 cttggaggac tgagcggccc ggcccagcgc ctccacatgg gccatggagc cttcctgcag  
 540  
 cacgtggtgc tggcggcctg cgcctctctc tgcattctca gcattatgct gctgccggag  
 600  
 accaagcgca agctcctgcc cgaggtgctc cgggacgggg agctgtgtcg ccggccttcc  
 660  
 ctgctgcggc agccaacccc taccgctgt gaccacgtcc cgctgcttgc caccaccaac  
 720  
 cctgccctct gaacggcctc tgagtaccct ccctgtgtgt ttgcattcac ttccttggcc  
 780  
 agagtcaggg gacagggaga gagctccaca ctgtaaccac tgggtctggg ctccatcctg  
 840  
 cgcccaaaga catccacca gacctatta attcttgctc tatcaatctg tttcaataaa  
 900  
 gacatttga ataaacg  
 917

<210> 4202  
 <211> 243  
 <212> PRT  
 <213> Homo sapiens

<400> 4202  
 Leu Gln Asp Leu Glu Asn Thr Cys Pro Leu Pro Ala Thr Ser Ser Phe  
 1 5 10 15  
 Ser Phe Ala Ser Leu Leu Asn Tyr Arg Asn Ile Trp Lys Asn Leu Leu  
 20 25 30  
 Ile Leu Gly Phe Thr Asn Phe Ile Ala His Ala Ile Arg His Cys Tyr  
 35 40 45  
 Gln Pro Val Gly Gly Gly Gly Ser Pro Ser Asp Phe Tyr Leu Cys Ser  
 50 55 60  
 Leu Leu Ala Ser Gly Xaa Ala Ala Leu Ala Cys Val Phe Leu Gly Val

65					70					75					80
Thr	Val	Asp	Arg	Phe	Gly	Arg	Arg	Gly	Ile	Leu	Leu	Leu	Ser	Met	Thr
				85					90					95	
Leu	Thr	Gly	Ile	Ala	Ser	Leu	Val	Leu	Leu	Gly	Leu	Trp	Asp	Tyr	Leu
			100					105					110		
Asn	Glu	Ala	Ala	Ile	Thr	Thr	Phe	Ser	Val	Leu	Gly	Leu	Phe	Ser	Ser
		115					120					125			
Gln	Ala	Ala	Ala	Ile	Leu	Ser	Thr	Leu	Leu	Ala	Ala	Glu	Val	Ile	Pro
	130					135					140				
Thr	Thr	Val	Arg	Gly	Arg	Gly	Leu	Gly	Leu	Ile	Met	Ala	Leu	Gly	Ala
145				150						155					160
Leu	Gly	Gly	Leu	Ser	Gly	Pro	Ala	Gln	Arg	Leu	His	Met	Gly	His	Gly
			165					170					175		
Ala	Phe	Leu	Gln	His	Val	Val	Leu	Ala	Ala	Cys	Ala	Leu	Leu	Cys	Ile
			180					185				190			
Leu	Ser	Ile	Met	Leu	Leu	Pro	Glu	Thr	Lys	Arg	Lys	Leu	Leu	Pro	Glu
	195					200					205				
Val	Leu	Arg	Asp	Gly	Glu	Leu	Cys	Arg	Arg	Pro	Ser	Leu	Leu	Arg	Gln
	210					215				220					
Pro	Thr	Pro	Thr	Arg	Cys	Asp	His	Val	Pro	Leu	Leu	Ala	Thr	Pro	Asn
225				230						235				240	
Pro	Ala	Leu													

&lt;210&gt; 4203

&lt;211&gt; 1368

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4203

ntcctttcca ctagaagcga ggtgtgtact gcgtgcatgt ttgctgagcg ctcaccacgg

60

gctaggtccc atgccagtt cctgtgagga gaaaacacgt ttctatgtgc ccggcaggta

120

ggaggcactc acaaaatggt actttgtctt tacagaattt tctgaaggag agataaaaac

180

tgagttaaat aaagatgac agaatggatg agaaataact ttagacatta tttcattgaa

240

ccttcccaac tgaaattatt ttatgatgtt ataacatgga tagtaactca agtagcaata

300

agttacacag ttgtgccatt tgtgcttctt tctataaaac catcactcac gttttacagc

360

tcctggtatt attgctgca cattcttggg atcttagtat tattgttggg gccagtgaag

420

aaaaactcaa agaagaaaga atacacatga aaacattcag ctctcacaat ccaaaaagtt

480

tgatgaagga gaaaattctt tgggacagaa cagtttttct acaacaaaca atgtttgcaa

540

tcagaatcaa gaaatagcct cgagacattc atcactaaag cagtgatcgg gaaggctctg

600

agggtgttt tttttttttg atgttaacag aaaccaatct tagcaccttt tcaagggggt

660

tgagtttggg ggaaaagcag ttaactgggg ggaaatggac agttatagat aagggaatttc

720

ctgtacacca gattggaaat ggagtgaaac aagccctccc atgcatgtc cccgtgggcc  
 780  
 acgccttatg taagaatatt tccatatttc agtgggcact cccaacctca gcacttgccc  
 840  
 gtagggtcac acgcgtgccc tggtgtgaa tgtatgttgc gtatcccaag gcactgaaga  
 900  
 ggtggaaaaa taatcgtgtc aatctggatg atagagagaa attaactttt ccaaataaat  
 960  
 gtcttgccct aaacctcta tttcctaaaa tattgttcct aaatggtatt ttcaagtgtg  
 1020  
 atattgtgag aacgctactg cagtagttga tggtgtgtgc tgtaaaggat tttaggagga  
 1080  
 atttgaaaca ggatatttaa gagtgtggat atttttaaaa tgcaataaac atctcagtat  
 1140  
 ttgaagggtt ttcttaaagt atgtcaaatg actacaatcc atagtgaac tgtaaacagt  
 1200  
 aatggacgcc aaattatagg tagctgattt tgctggagag ttttaattacc ttgtgcagtc  
 1260  
 aaagagcgct tccagaagga atctcttaaa acataatgag aggtttggta atgtgatatt  
 1320  
 ttaagcttac tctttttctt aaaagagaga ggtgacgaag gaaggcag  
 1368

&lt;210&gt; 4204

&lt;211&gt; 80

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4204

Met	Arg	Asn	Asn	Phe	Arg	His	Tyr	Phe	Ile	Glu	Pro	Ser	Gln	Leu	Lys
1			5					10					15		
Leu	Phe	Tyr	Asp	Val	Ile	Thr	Trp	Ile	Val	Thr	Gln	Val	Ala	Ile	Ser
		20					25				30				
Tyr	Thr	Val	Val	Pro	Phe	Val	Leu	Leu	Ser	Ile	Lys	Pro	Ser	Leu	Thr
		35				40				45					
Phe	Tyr	Ser	Ser	Trp	Tyr	Tyr	Cys	Leu	His	Ile	Leu	Gly	Ile	Leu	Val
	50				55			60							
Leu	Leu	Leu	Leu	Pro	Val	Lys	Lys	Asn	Ser	Lys	Lys	Lys	Glu	Tyr	Thr
65				70				75					80		

&lt;210&gt; 4205

&lt;211&gt; 6523

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4205

gaagaggagg aggaagagga agaggaagag gaggaggagg aggcagctcc tgatgtgatc  
 60  
 tttcaggaag acacctctca cacctctgcc cagaaggccc ctgagctccg gggcccagaa  
 120  
 tcaccagtc ccaagcctga gtactctggt attgtggagg tccgctcgga tgatgacaag  
 180  
 gacgaggaca cccactcccg gaagtcaaca gtactgacg agtcggagat gcaggacatg  
 240

atgacccggg gaaacctggg cctcctggag caggccatcg ccctgaaggc tgaacagggtg  
300  
cgcacagtct gcgagccggg ctgcccgcct gccgagcaga gccagctggg cctgggagag  
360  
ccagggaagg cagcaaagcc cctggacact gtgcggaaga gttactacag taaagatcct  
420  
tcaagagctg agaagcgtga gatcaagtgt ccaacaccag gctgtgatgg cactggccac  
480  
gttaccgggt tgtaccctca ccaccgcagc ctttctgggt gtccccacaa ggataggatc  
540  
ccccagaga tcttagccat gcatgagaac gtgctgaagt gcccactcc tggctgcaca  
600  
ggccagggtc acgtgaacag caaccgcaac acgcacagaa gtttgtctgg gtgtccatt  
660  
gctgccgccc aaaaattagc caaatcccat gagaagcagc agccgcagac aggagatcct  
720  
tccaagagta gctccaattc cgatcggatc ctcaggccca tgtgcttcgt gaagcagctc  
780  
gaggtcctc catatgggag ctaccggccc aacgtggccc ccgccacacc cagggccaac  
840  
ttggccaagg agctggagaa gttctccaag gtcaccttg actacgcaag tttcgatgct  
900  
caggtttttg gcaaacgcat gcttgcccca aagattcaga ccagcgaac ctcacctaaa  
960  
gcctttcaat gctttgacta ctgcgaggac gccgaggctg cacacatggc tgccactgcc  
1020  
atcctgaacc tctccacgcg ctgctgggag atgcctgaga accttagcac gaagccacag  
1080  
gacctcccca gcaagtctgt ggatatcgag gtagacgaaa atggaaccct ggacttgagc  
1140  
atgcacaaac accgcaaacg agaaaatgct tccccagca gcagcagctg cagcagcagc  
1200  
cccggtgtga agtctccga cgctcccg cgccacagca gcaccagcg cccagcagc  
1260  
tccatgacct ctcccagtc cagccaggcc tcccgcagg acgagtggga ccggccctg  
1320  
gactacacca agcctagccg cctgagagag gaggaacctg aggagtcaga gccagcagc  
1380  
cattcttttg cttcttctga agcagatgac caggaagtgt cggaagagaa ttttgaggag  
1440  
cggaagtatc cgggggaagt caccctgacc aactttaagc tgaagtttct ctccaaggac  
1500  
ataaagaagg agctgtcac ctgtcccacc cctggctgtg acggcagcgg ccacatcacc  
1560  
gggaactacg cctcccaccg cagcctctct ggttgccctc ttgctgacaa gagcctcaga  
1620  
aacctcatgg ctgcccactc tgctgacctc aagtgccca cgccggctg tgacggctct  
1680  
ggccacatca cagggaacta cgcttcacac cggagcttgt ccggctgccc tcgtgcaaa  
1740  
aaaagtggag tcaaggtggc accaccaag gacgacaagg aggaccccg gctgatgaag  
1800  
tgccagttc caggctgtgt ggggctcggg cacatcagcg ggaaatacgc ctctcacagg  
1860

agcgcacccg gctgcccact ggccgcccgc aggcagaagg aagggtccct caatggctcg  
1920  
tcattctcct ggaagtcctt gaagaatgaa ggaccgacct gccccacccc gggtgtgac  
1980  
ggctctggcc acgccaatgg gagtttcttc acccaccgga gtttgtcagg ctgtcccaga  
2040  
gcaacctttg ctggaaagaa gggaaaactg tcaggggatg aggtcctcag tccaaagttc  
2100  
aagactagcg acgtgttggg gaatgatgag gagatcaagc agctgaacca ggagatccga  
2160  
gacctgaacg agtccaactc ggagatggag gctgccatgg tgcagctgca gtcccagatc  
2220  
tcctccatgg agaagaacct gaagaacatc gaggaggaga acaagctcat tgaggagcag  
2280  
aatgaagccc tgtttctgga gctgtccggc ctgagccagg ccctcatcca aagtctcgcc  
2340  
aatatccgcc ttccgcacat ggagccaata tgcgaacaga atttcgatgc ctatgtgagc  
2400  
accctcacccg acatgtactc caaccaggac ccggagaaca aggacctcct ggagagcatc  
2460  
aagcaggctg tgaggggcat ccagggtctag gccgtgtggt acccagaagt gtcccagccc  
2520  
accacaccgt ttacctccct cgccctgccc cgcaccgtgg ggatgcccac ctcacagtga  
2580  
cttcccgttt ggggcccggg gtggcccgcg gcgggtttat ccaaagggat ggctggaaat  
2640  
tggccgctcc cagcaggctc cctccaggct tggggccgtg gtggccctat ctgtgtgcat  
2700  
aggggcaactg aagaattaca aagtgattta ttttgtttt ctgaaagaaa tctgaagagc  
2760  
agctcaaagt ctccagtggg agtcatgga caaggttctc agtattgcct aagtgtaatc  
2820  
ttgaacatgg gcggtgctgt gagtgctggt gaagacaatg atgagctgat agataatttg  
2880  
aaagaagcac agtatatccg gactgagctg gttagagcagg ctttcagagc tategatcgt  
2940  
gcagactatt atcttgaaga atttaaagaa aatgcttata aagacttggc atggaagcat  
3000  
ggaaacattc acctctcagc cccgtgcac tactcggagg tgatggaagc cctagatctg  
3060  
cagcctggac tctcgtttct gaacctgggc agtggcactg ggtatctcag ctccatgggtg  
3120  
ggcctcattc taggtccttt tgggtgtgaa catgggggtg aacttcactc agatgtgata  
3180  
gagtatgcaa agcagaaact ggacttcttc atcagaacaa gtgatagttt tgacaagttt  
3240  
gacttctgtg aaccttctt tgttactggg aattgcctgg agatttctcc ggattgttct  
3300  
cagtatgatc gtgtatactg tggggctggc gtgcagaaag agcatgaaga gtacatgaag  
3360  
aatcttctca aagtgggagg gatcctgtc atgccactgg aagagaagtt gactaagata  
3420  
acacgcacag gtccttcagc ttgggaaacc aaaaagattc ttgctgttcc ttttgcctcct  
3480

ctgatccagc cctgccattc agagtcagga aaatcaagac ttgtccagtt accaccagtg  
3540  
gcagttcgca gcctccagga cttggctcgc atcgccatcc ggggcaccat taaaaagatt  
3600  
attcatcagg aaactgtgag caaaaacgga aacggactaa agaacacccc caggttttaa  
3660  
cgaaggagag ttccgcccg tcgaatggaa acgattgtct ttttggacaa agaagtcttt  
3720  
gccagtcgga tttccaaccc ctcagatgac aacagctgtg aagacttgga agaggaacgg  
3780  
agggaagaag aagagaagac cccgccggaa acaaagccag accccccagt gaacttccta  
3840  
cgccagaagg tcctgagcct cctctgccga gatccctga aatactactt gctttattac  
3900  
agagaaaaat aagtctcctg ttgaaaggg ggaatagga agagcagatt gctgagtgtg  
3960  
aagttcgtgc tgctgtgtg ctgttgaagg gtcacctgga ggcagacgtt gtggggaagg  
4020  
gaactgctgg gctcatccac accatggttt tcttctagtt cctgattgac ctctaaaatt  
4080  
ctattcagtt gtatgatttg tttacatagt tccacaagac cttcattgca tagaagattg  
4140  
ttttcccaa gtggagagaa tcttcataga gaaaagaga aggctgtttc ttttcggct  
4200 actgaagtct gcgtaagaga gactgtttga tgaccgtccc tcatgcaaca 4260  
tgcacggtac tactaaaaa tgaaaactga agtggaaact aacctgtgtt gcttataaag  
4320  
tgtgaaagca caagcttata aatgtataaa atcttttctg ggtgtgacgc acctgcgtcc  
4380  
aagtttgaat ttttatgata tgtaccactt aattactggc actgagtatc actgaatttc  
4440  
ttagttttct agtggggaaa cattattgag aagccctccc ttattttaag taagttgatt  
4500  
aaatcttatg tgagttgccg gttgtaatTT ttcaaaggaa aaattttgat ggggtggagg  
4560  
aatgaattgc cagataatct ttctggaatt ccgagagaat tccaaagagg gttttttttt  
4620  
tttttttag gacatctttt gataccttta aaagaaccac tgtcaagtaa tccttaaaag  
4680  
aatatcttgg aaaaggaaac agattttttc ctgtgtgtaa gcaataagtg aagttacatt  
4740  
tgccctaacc ctagggatga ttctttaccc agtttttaaag cccatcatgg tattctaagg  
4800  
tgttgacacc ctccatcctc agagcaggtc gaaaatatta aatagactgg ggactctatg  
4860  
atgggcagcc tgtgcttttt gacttcagtt tgctattttt ctgtgatcac attagtactg  
4920  
attcatagat tctatctttt ataattctgg agaaaaagat ttgttagttt tgtaattttt  
4980  
ttgtaagacc aaatgtatgt attttagtag ctccattgca tgagaagagt gtaactcaca  
5040  
ctgacttggt atatcagcct tctctgggcc ttgtgtgtgg agagctttct atcttaccaa  
5100  
gtggtagggc taaaagaaca acagcctttt tggtagtcac atagcagaat gatcagagtt  
5160

acattgctta ttccaaaaca ttggttcttt ttaaaacatt tttttttacc caaagaaaag  
 5220  
 aataatagaa attactaaca ataaatataa attcagagtg ttgatatagg attcagtatc  
 5280  
 cagagtttat ttttaattctt aatcctcagc ttcttgggag ttgctgggct tcagtgtctc  
 5340  
 tgtgggttca ccagcttagc ttgagctctg gttatttttg atcttttctg ctttttttaa  
 5400  
 gtaactgagt cttttttacc acacagtcca gtttgcattg atagctagga aacatgtatt  
 5460  
 gctctagatt gggcagttta agtcatttta aagaaagtta gttcatagtt gttgcctttt  
 5520  
 aactcatagt caagcttcag tctttcaaag agaaatgtgt gattttcatt tacttgctga  
 5580  
 tattttgtag ttggagatc cttgtgggca ttattctaac tgatacgtag acacttactt  
 5640  
 ggaaattttt ggacattata ttaaagtgtg gctatctgtg aaattgggta tattaggtgg  
 5700  
 cttgactaat gttttttcta taattgtata tggactgcat ttttaaaaaa accgcatttg  
 5760  
 cctttatgct agattgtaaa aaattatatt agaatgcata agacatgttt ttccttcata  
 5820  
 tgctagactt ttcctagcat ttcgtatttc tgtgtgtgca gtgtgtgatt tttaaaccgg  
 5880  
 aatttggttt aaaaaaaatc tgggtggtat atatgtgaga aatactttgg tgtttacctt  
 5940  
 atgaaaataa aggattgtaa gttaaagttc ctgcgcacct tataccagaa ttcagtataa  
 6000  
 tacactactt tctgttttca aacagataaa tcataatata gtctgtatta tctgtaagat  
 6060  
 ctgtcttgta aaccacattc ttgacaacta tttgcttttg agtagtttgt attttaatat  
 6120  
 gtgacttttg tcttgaaaag tagtaaagcc atagacttgt gcaaaacaag tttcaagttt  
 6180  
 atagatatta agtttgtaat gtgagcatca aatgtgtatg taaaaatact ttttaccagt  
 6240  
 ctggaacttg ggaaaatcca gggaatttga aacatagatt ttaatgagct ggtaaacaca  
 6300  
 aatcatgtca ataaaggtag tcaggatatt ttatccttag cattgcttct gcacccgtg  
 6360  
 taggattcca attcttgaat atgttctttt caaaatctta agaaaagaac cttttttctt  
 6420  
 tattaacatc atgtgtttac tttcagcaaa tatttgtatt actgcttgat tctgtgacat  
 6480  
 tcacaataga tgtagagaag gcattatttt tcattaataa atg  
 6523

&lt;210&gt; 4206

&lt;211&gt; 829

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4206

Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Glu Ala Ala



1	5	10	15
Pro Asp Val Ile Phe Gln Glu Asp Thr Ser His Thr Ser Ala Gln Lys			
20	25	30	
Ala Pro Glu Leu Arg Gly Pro Glu Ser Pro Ser Pro Lys Pro Glu Tyr			
35	40	45	
Ser Val Ile Val Glu Val Arg Ser Asp Asp Asp Lys Asp Glu Asp Thr			
50	55	60	
His Ser Arg Lys Ser Thr Val Thr Asp Glu Ser Glu Met Gln Asp Met			
65	70	75	80
Met Thr Arg Gly Asn Leu Gly Leu Leu Glu Gln Ala Ile Ala Leu Lys			
85	90	95	
Ala Glu Gln Val Arg Thr Val Cys Glu Pro Gly Cys Pro Pro Ala Glu			
100	105	110	
Gln Ser Gln Leu Gly Leu Gly Glu Pro Gly Lys Ala Ala Lys Pro Leu			
115	120	125	
Asp Thr Val Arg Lys Ser Tyr Tyr Ser Lys Asp Pro Ser Arg Ala Glu			
130	135	140	
Lys Arg Glu Ile Lys Cys Pro Thr Pro Gly Cys Asp Gly Thr Gly His			
145	150	155	160
Val Thr Gly Leu Tyr Pro His His Arg Ser Leu Ser Gly Cys Pro His			
165	170	175	
Lys Asp Arg Ile Pro Pro Glu Ile Leu Ala Met His Glu Asn Val Leu			
180	185	190	
Lys Cys Pro Thr Pro Gly Cys Thr Gly Gln Gly His Val Asn Ser Asn			
195	200	205	
Arg Asn Thr His Arg Ser Leu Ser Gly Cys Pro Ile Ala Ala Ala Glu			
210	215	220	
Lys Leu Ala Lys Ser His Glu Lys Gln Gln Pro Gln Thr Gly Asp Pro			
225	230	235	240
Ser Lys Ser Ser Ser Asn Ser Asp Arg Ile Leu Arg Pro Met Cys Phe			
245	250	255	
Val Lys Gln Leu Glu Val Pro Pro Tyr Gly Ser Tyr Arg Pro Asn Val			
260	265	270	
Ala Pro Ala Thr Pro Arg Ala Asn Leu Ala Lys Glu Leu Glu Lys Phe			
275	280	285	
Ser Lys Val Thr Phe Asp Tyr Ala Ser Phe Asp Ala Gln Val Phe Gly			
290	295	300	
Lys Arg Met Leu Ala Pro Lys Ile Gln Thr Ser Glu Thr Ser Pro Lys			
305	310	315	320
Ala Phe Gln Cys Phe Asp Tyr Ser Gln Asp Ala Glu Ala Ala His Met			
325	330	335	
Ala Ala Thr Ala Ile Leu Asn Leu Ser Thr Arg Cys Trp Glu Met Pro			
340	345	350	
Glu Asn Leu Ser Thr Lys Pro Gln Asp Leu Pro Ser Lys Ser Val Asp			
355	360	365	
Ile Glu Val Asp Glu Asn Gly Thr Leu Asp Leu Ser Met His Lys His			
370	375	380	
Arg Lys Arg Glu Asn Ala Phe Pro Ser Ser Ser Ser Cys Ser Ser Ser			
385	390	395	400
Pro Gly Val Lys Ser Pro Asp Ala Ser Gln Arg His Ser Ser Thr Ser			
405	410	415	
Ala Pro Ser Ser Ser Met Thr Ser Pro Gln Ser Ser Gln Ala Ser Arg			
420	425	430	
Gln Asp Glu Trp Asp Arg Pro Leu Asp Tyr Thr Lys Pro Ser Arg Leu			

435	440	445
Arg Glu Glu Glu Pro Glu Glu Ser Glu Pro Ala Ala His Ser Phe Ala		
450	455	460
Ser Ser Glu Ala Asp Asp Gln Glu Val Ser Glu Glu Asn Phe Glu Glu		
465	470	475
Arg Lys Tyr Pro Gly Glu Val Thr Leu Thr Asn Phe Lys Leu Lys Phe		
485	490	495
Leu Ser Lys Asp Ile Lys Lys Glu Leu Leu Thr Cys Pro Thr Pro Gly		
500	505	510
Cys Asp Gly Ser Gly His Ile Thr Gly Asn Tyr Ala Ser His Arg Ser		
515	520	525
Leu Ser Gly Cys Pro Leu Ala Asp Lys Ser Leu Arg Asn Leu Met Ala		
530	535	540
Ala His Ser Ala Asp Leu Lys Cys Pro Thr Pro Gly Cys Asp Gly Ser		
545	550	555
Gly His Ile Thr Gly Asn Tyr Ala Ser His Arg Ser Leu Ser Gly Cys		
565	570	575
Pro Arg Ala Lys Lys Ser Gly Val Lys Val Ala Pro Thr Lys Asp Asp		
580	585	590
Lys Glu Asp Pro Glu Leu Met Lys Cys Pro Val Pro Gly Cys Val Gly		
595	600	605
Leu Gly His Ile Ser Gly Lys Tyr Ala Ser His Arg Ser Ala Ser Gly		
610	615	620
Cys Pro Leu Ala Ala Arg Arg Gln Lys Glu Gly Ser Leu Asn Gly Ser		
625	630	635
Ser Phe Ser Trp Lys Ser Leu Lys Asn Glu Gly Pro Thr Cys Pro Thr		
645	650	655
Pro Gly Cys Asp Gly Ser Gly His Ala Asn Gly Ser Phe Leu Thr His		
660	665	670
Arg Ser Leu Ser Gly Cys Pro Arg Ala Thr Phe Ala Gly Lys Lys Gly		
675	680	685
Lys Leu Ser Gly Asp Glu Val Leu Ser Pro Lys Phe Lys Thr Ser Asp		
690	695	700
Val Leu Glu Asn Asp Glu Glu Ile Lys Gln Leu Asn Gln Glu Ile Arg		
705	710	715
Asp Leu Asn Glu Ser Asn Ser Glu Met Glu Ala Ala Met Val Gln Leu		
725	730	735
Gln Ser Gln Ile Ser Ser Met Glu Lys Asn Leu Lys Asn Ile Glu Glu		
740	745	750
Glu Asn Lys Leu Ile Glu Glu Gln Asn Glu Ala Leu Phe Leu Glu Leu		
755	760	765
Ser Gly Leu Ser Gln Ala Leu Ile Gln Ser Leu Ala Asn Ile Arg Leu		
770	775	780
Pro His Met Glu Pro Ile Cys Glu Gln Asn Phe Asp Ala Tyr Val Ser		
785	790	795
Thr Leu Thr Asp Met Tyr Ser Asn Gln Asp Pro Glu Asn Lys Asp Leu		
805	810	815
Leu Glu Ser Ile Lys Gln Ala Val Arg Gly Ile Gln Val		
820	825	

&lt;210&gt; 4207

&lt;211&gt; 1016

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4207

tttttttttg tgatttgggt ctgatctgcc tttgcatctg aagttcttga ctagtcagaa  
 60  
 gtttcttatt atttctgaca gacaggttct gaggagaaat taatttagtc ttttttcggg  
 120  
 tatcaactac tccaacagtt ttgccatgat cacgtaattg agctacataa tccaaagacc  
 180  
 gctgggacaa ctcatatgcc ttacgaggac cttttttcag gccaaagtttc tcagctgttg  
 240  
 aagttggctc aggacactga cgaaatttct ttggcggcac tatagcagga gttgttctac  
 300  
 aacttaggta atttgaactt ctattctgtc cttttttggc atctgaatga gttttcttag  
 360  
 gggctcttaga aactggaact ttctctgatgg gttctgtaca agtacaaagc tttgaagact  
 420  
 tcttttgtga aaccgtagtg gctctctgaa tacgtgaatt gggagttgaa gtccttctat  
 480  
 caatactttt aaaatcattt cccacaagct ctctcttatt agtatcagac tggccctcat  
 540  
 ttctgacaga agatgaagac ctcacaggat cttcagccat tggtttttca gatcgttttc  
 600  
 tcttaggctt ttttacttca atttcacaaa attcttcaac agaaatactc cgtgggtctg  
 660  
 tgtgttcttc aatgccctct gctccttttt taacaacttc agatacataa tctgtacaac  
 720  
 cctgaccatt tgtagtattg gctataggag ccaaacattt tttctcacca tcttgaactg  
 780  
 aattattatc gtctggatga tcttgccaaa ctgaaaacac ttcagatgaa ctttcaaact  
 840  
 caaaacactg agaatcagat tcttcaaact gaaaaagagt ctctgtcttt tcttccttta  
 900  
 ctggattctt ttctctctta ctattaactg ttgaaacgtg ctgctctgga tgttccctct  
 960  
 caaggcatat tttgtcctgt ttagtgagtt tctcaagact caggattctt tcatca  
 1016

&lt;210&gt; 4208

&lt;211&gt; 193

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4208

Met Ala Glu Asp Pro Val Arg Ser Ser Ser Ser Val Arg Asn Glu Gly  
 1 5 10 15  
 Gln Ser Asp Thr Asn Lys Arg Glu Leu Val Gly Asn Asp Phe Lys Ser  
 20 25 30  
 Ile Asp Arg Arg Thr Ser Thr Pro Asn Ser Arg Ile Gln Arg Ala Thr  
 35 40 45  
 Thr Val Ser Gln Lys Lys Ser Ser Lys Leu Cys Thr Cys Thr Glu Pro  
 50 55 60  
 Ile Arg Lys Val Pro Val Ser Lys Thr Pro Lys Lys Thr His Ser Asp  
 65 70 75 80  
 Ala Lys Lys Gly Gln Asn Arg Ser Ser Asn Tyr Leu Ser Cys Arg Thr

```
<210> 4209
<211> 2661
<212> DNA
<213> Homo sapiens
```

```

<400> 4209
ntctctgtga cctgggcata cagaaaaatg gtggtgatgg cgcgactttc gggcccgag
60
cggccggacc ttgtcttcga ggaagaggac ctcccctatg aggaggaaat catgcggaac
120
caattctctg tcaaatgctg gcttcgctac atcgagttca aacagggcgc cccgaagccc
180
aggctcaatc agctatacga gcgggcactc aagctgctgc cctgcagcta caaactctgg
240
taccgatacc tgaaggcgcg tcgggcacag gtgaagcatc gctgtgtgac cgaccctgcc
300
tatgaagatg tcaacaactg tcatgagagg gcctttgtgt tcatgcacaa gatgcctcgt
360
ctgtggctag attactgcc a gtccctcatg gaccaggggc gcgtcacaca caccgcccgc
420
accttcgacc gtgccctccg ggcaactgcc atcacgcagc actctcgaat ttggcccttg
480
tatctgcgct tcttcgctc acacccactg cctgagacag ctgtgcgagg ctatcggcgc
540
ttcttcaagc tgagtcctga gaggtcagag gaggatattg agtacctcaa gtcaagtga
600
cggctggatg aggccgccc ggcctggcc accgtggtga acgacgagcg ttctgtgtct
660
aaggccggca agtccaacta ccagctgtgg cagagctgt gcgacctcat ctcccagaat
720
ccggacaagg tacagtcctt caatgtggac gccatcatcc gcgggggcct caccgcttc
780
accgaccagc tgggcaagct ctggtgttct ctgcccgaact actacatccg cagcggccat
840
ttcgagaagg ctccggacgt gtacgaggag gccatccgga cagtgatgac cgtgcgggac
900
ttcacacagg tgtttgacag ctaagccagc ttcgaggaga gcatgatcgc tgcaaagatg
960

```

gagaccgcct cggagctggg tcgagaggag gaggatgatg tggacctgga gctgcgcctg  
1020  
gcccgtctcg agcacctcat cagccggcgg ccctgcacc tcagcagcgt cttgctgcgc  
1080  
caaaaccac accacgtgca cgagtggcac aagcgtgtcg ccctgcacca gggccgcccc  
1140  
cgggagatca tcaacaccta cacagaggct gtgcagacgg tggaccctt caaggccaca  
1200  
ggcaagcccc acactctgtg ggtggcgttt gccaaagttt atgaggacaa cggacagctg  
1260  
gacgatgccc gtgtcatcct ggagaaggcc accaagggtga acttcaagca ggtggatgac  
1320  
ctggcaagcg tgtggtgtca gtgcggagag ctggagctcc gacacgagaa ctacgatgag  
1380  
gccttgccgc tgctgcgaaa ggccacggcg ctgcctccgc cgggccgagt atttgatggt  
1440  
tcagagcccc tgcagaaccg cgtgtacaag tcaactgaagg tctggtccat gctcgccgac  
1500  
ctggaggaga gcctcggcac cttccagtc accaaggccg tgtacgacc catcctggac  
1560  
ctgcgtatcg caacacccca gatcgtcatc aactatgcca tgttctctgga ggagcacaag  
1620  
tacttcgagg agagcttcaa ggcgtacgag cgcggcatct cgctgttcaa gtggcccaac  
1680  
gtgtccgaca tctggagcac ctacctgacc aaattcattg cccgctatgg gggccgcaag  
1740  
ctggagcggg cacgggacct gtttgaacag gctctggacg gctgcccccc aaaatatgcc  
1800  
aagaccttgt acctgctgta cgcacagctg gaggaggagt ggggcctggc ccggcatgcc  
1860  
atggccgtgt acgagcgtgc caccagggcc gtggagcccg ccagcagta tgacatgttc  
1920  
aacatctaca tcaagcgggc ggccgagatc tatggggtca cccacacccg cggcatctac  
1980  
cagaaggcca ttgaggtgct gtcggacgag cacgcgcgtg agatgtgcct gcggtttgca  
2040  
gacatggagt gcaagctcgg ggagatcgac cgcgcccggg ctatctacag cttctgctcc  
2100  
cagatctgtg atccccggac aactggggca ttctggcaaa cgtggaagga ctttgaggtc  
2160  
cggcatggca acgaggacac catcaggag atgctgagga tacggcggag tgtgcaggcc  
2220  
acgtacaaca ctcaggtcaa cttcatggcc tcgagatgc tcaagggtgc gggcagtgcc  
2280  
acgggcaccg tgtctgacct ggctcccggg cagagcggca tggatgacat gaagttgctg  
2340  
gaacagagag cagaacagct ggcggctgag gcgagcgtg accagccctt gcgcgccag  
2400  
agcaagatcc tgttcgtgag gagtgcgcc tcccgggagg agctggcaga gctggcacag  
2460  
caggtaacc ccgaggagat ccagctgggc gaggacgagg acgaggacga gatggacctg  
2520  
gagcccaacg aggttcggct ggagcagcag agcgtgccag ccgagtggt tgggagcctg  
2580

aaggaagact gacccgtccc tccccatcc cccctcccca cccctccccc aatacagcta  
 2640  
 cgtttgtaga tcaaaaaaaaa a  
 2661

<210> 4210

<211> 863

<212> PRT

<213> Homo sapiens

<400> 4210

Xaa	Ser	Cys	Thr	Trp	Ala	Ser	Arg	Lys	Met	Val	Val	Met	Ala	Arg	Leu
1				5					10					15	
Ser	Arg	Pro	Glu	Arg	Pro	Asp	Leu	Val	Phe	Glu	Glu	Glu	Asp	Leu	Pro
			20					25					30		
Tyr	Glu	Glu	Glu	Ile	Met	Arg	Asn	Gln	Phe	Ser	Val	Lys	Cys	Trp	Leu
			35				40					45			
Arg	Tyr	Ile	Glu	Phe	Lys	Gln	Gly	Ala	Pro	Lys	Pro	Arg	Leu	Asn	Gln
			50			55					60				
Leu	Tyr	Glu	Arg	Ala	Leu	Lys	Leu	Leu	Pro	Cys	Ser	Tyr	Lys	Leu	Trp
65					70					75				80	
Tyr	Arg	Tyr	Leu	Lys	Ala	Arg	Arg	Ala	Gln	Val	Lys	His	Arg	Cys	Val
			85						90					95	
Thr	Asp	Pro	Ala	Tyr	Glu	Asp	Val	Asn	Asn	Cys	His	Glu	Arg	Ala	Phe
			100					105					110		
Val	Phe	Met	His	Lys	Met	Pro	Arg	Leu	Trp	Leu	Asp	Tyr	Cys	Gln	Phe
			115				120					125			
Leu	Met	Asp	Gln	Gly	Arg	Val	Thr	His	Thr	Arg	Arg	Thr	Phe	Asp	Arg
			130			135					140				
Ala	Leu	Arg	Ala	Leu	Pro	Ile	Thr	Gln	His	Ser	Arg	Ile	Trp	Pro	Leu
145					150					155				160	
Tyr	Leu	Arg	Phe	Leu	Arg	Ser	His	Pro	Leu	Pro	Glu	Thr	Ala	Val	Arg
			165						170					175	
Gly	Tyr	Arg	Arg	Phe	Leu	Lys	Leu	Ser	Pro	Glu	Ser	Ala	Glu	Glu	Tyr
			180					185					190		
Ile	Glu	Tyr	Leu	Lys	Ser	Ser	Asp	Arg	Leu	Asp	Glu	Ala	Ala	Gln	Arg
			195				200					205			
Leu	Ala	Thr	Val	Val	Asn	Asp	Glu	Arg	Phe	Val	Ser	Lys	Ala	Gly	Lys
			210			215						220			
Ser	Asn	Tyr	Gln	Leu	Trp	His	Glu	Leu	Cys	Asp	Leu	Ile	Ser	Gln	Asn
225				230						235				240	
Pro	Asp	Lys	Val	Gln	Ser	Leu	Asn	Val	Asp	Ala	Ile	Ile	Arg	Gly	Gly
			245						250					255	
Leu	Thr	Arg	Phe	Thr	Asp	Gln	Leu	Gly	Lys	Leu	Trp	Cys	Ser	Leu	Ala
			260					265					270		
Asp	Tyr	Tyr	Ile	Arg	Ser	Gly	His	Phe	Glu	Lys	Ala	Arg	Asp	Val	Tyr
			275				280					285			
Glu	Glu	Ala	Ile	Arg	Thr	Val	Met	Thr	Val	Arg	Asp	Phe	Thr	Gln	Val
			290			295					300				
Phe	Asp	Ser	Tyr	Ala	Gln	Phe	Glu	Glu	Ser	Met	Ile	Ala	Ala	Lys	Met
305				310						315				320	
Glu	Thr	Ala	Ser	Glu	Leu	Gly	Arg	Glu	Glu	Glu	Asp	Asp	Val	Asp	Leu
			325						330					335	
Glu	Leu	Arg	Leu	Ala	Arg	Phe	Glu	His	Leu	Ile	Ser	Arg	Arg	Pro	Leu

340 345 350  
 His Leu Ser Ser Val Leu Leu Arg Gln Asn Pro His His Val His Glu  
 355 360 365  
 Trp His Lys Arg Val Ala Leu His Gln Gly Arg Pro Arg Glu Ile Ile  
 370 375 380  
 Asn Thr Tyr Thr Glu Ala Val Gln Thr Val Asp Pro Phe Lys Ala Thr  
 385 390 395 400  
 Gly Lys Pro His Thr Leu Trp Val Ala Phe Ala Lys Phe Tyr Glu Asp  
 405 410 415  
 Asn Gly Gln Leu Asp Asp Ala Arg Val Ile Leu Glu Lys Ala Thr Lys  
 420 425 430  
 Val Asn Phe Lys Gln Val Asp Asp Leu Ala Ser Val Trp Cys Gln Cys  
 435 440 445  
 Gly Glu Leu Glu Leu Arg His Glu Asn Tyr Asp Glu Ala Leu Arg Leu  
 450 455 460  
 Leu Arg Lys Ala Thr Ala Leu Pro Pro Pro Gly Arg Val Phe Asp Gly  
 465 470 475 480  
 Ser Glu Pro Val Gln Asn Arg Val Tyr Lys Ser Leu Lys Val Trp Ser  
 485 490 495  
 Met Leu Ala Asp Leu Glu Glu Ser Leu Gly Thr Phe Gln Ser Thr Lys  
 500 505 510  
 Ala Val Tyr Asp Arg Ile Leu Asp Leu Arg Ile Ala Thr Pro Gln Ile  
 515 520 525  
 Val Ile Asn Tyr Ala Met Phe Leu Glu Glu His Lys Tyr Phe Glu Glu  
 530 535 540  
 Ser Phe Lys Ala Tyr Glu Arg Gly Ile Ser Leu Phe Lys Trp Pro Asn  
 545 550 555 560  
 Val Ser Asp Ile Trp Ser Thr Tyr Leu Thr Lys Phe Ile Ala Arg Tyr  
 565 570 575  
 Gly Gly Arg Lys Leu Glu Arg Ala Arg Asp Leu Phe Glu Gln Ala Leu  
 580 585 590  
 Asp Gly Cys Pro Pro Lys Tyr Ala Lys Thr Leu Tyr Leu Leu Tyr Ala  
 595 600 605  
 Gln Leu Glu Glu Glu Trp Gly Leu Ala Arg His Ala Met Ala Val Tyr  
 610 615 620  
 Glu Arg Ala Thr Arg Ala Val Glu Pro Ala Gln Gln Tyr Asp Met Phe  
 625 630 635 640  
 Asn Ile Tyr Ile Lys Arg Ala Ala Glu Ile Tyr Gly Val Thr His Thr  
 645 650 655  
 Arg Gly Ile Tyr Gln Lys Ala Ile Glu Val Leu Ser Asp Glu His Ala  
 660 665 670  
 Arg Glu Met Cys Leu Arg Phe Ala Asp Met Glu Cys Lys Leu Gly Glu  
 675 680 685  
 Ile Asp Arg Ala Arg Ala Ile Tyr Ser Phe Cys Ser Gln Ile Cys Asp  
 690 695 700  
 Pro Arg Thr Thr Gly Ala Phe Trp Gln Thr Trp Lys Asp Phe Glu Val  
 705 710 715 720  
 Arg His Gly Asn Glu Asp Thr Ile Arg Glu Met Leu Arg Ile Arg Arg  
 725 730 735  
 Ser Val Gln Ala Thr Tyr Asn Thr Gln Val Asn Phe Met Ala Ser Gln  
 740 745 750  
 Met Leu Lys Val Ser Gly Ser Ala Thr Gly Thr Val Ser Asp Leu Ala  
 755 760 765  
 Pro Gly Gln Ser Gly Met Asp Asp Met Lys Leu Leu Glu Gln Arg Ala

```

      770              775              780
Glu Gln Leu Ala Ala Glu Ala Glu Arg Asp Gln Pro Leu Arg Ala Gln
785              790              795              800
Ser Lys Ile Leu Phe Val Arg Ser Asp Ala Ser Arg Glu Glu Leu Ala
      805              810              815
Glu Leu Ala Gln Gln Val Asn Pro Glu Glu Ile Gln Leu Gly Glu Asp
      820              825              830
Glu Asp Glu Asp Glu Met Asp Leu Glu Pro Asn Glu Val Arg Leu Glu
      835              840              845
Gln Gln Ser Val Pro Ala Ala Val Phe Gly Ser Leu Lys Glu Asp
      850              855              860

```

&lt;210&gt; 4211

&lt;211&gt; 456

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4211

```

ggggatcgct agccccagc ttctcagaac taaatatgaa agctcttgct cgtctacgct
60
tagttacaac agactccctg ggctactgt aggggtcaag agcagatttc cagactctca
120
agctggaaaa gagacgctcc aactgcgac gacaaccaac acatgggaca agctgagaaa
180
gtgcactcag gacttcgct gatgtcacca ccatggcaat acttagatcc tgttgcttaa
240
gcataccatg tcgctgaaag agggaaagaa aatgaaagag cgtcctttta aaagacgtaa
300
aattacactt tcaactactac tggttcctat ccttgtgcag taaagtacaa cctggccagg
360
gtttaccagc tctacctgca actgagtcag aaaggcaaag tagtcagctt tgtccatgct
420
gtacggaatt tgetccacaa acccccttgc tctaga
456

```

&lt;210&gt; 4212

&lt;211&gt; 81

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4212

```

Met Leu Lys Gln Gln Asp Leu Ser Ile Ala Met Val Val Thr Ser Arg
1          5          10          15
Glu Val Leu Ser Ala Leu Ser Gln Leu Val Pro Cys Val Gly Cys Arg
      20          25          30
Arg Ser Val Glu Arg Leu Phe Ser Ser Leu Arg Val Trp Lys Ser Ala
      35          40          45
Leu Asp Pro Tyr Ser Arg Pro Arg Glu Ser Val Val Thr Lys Arg Arg
      50          55          60
Arg Ala Arg Ala Phe Ile Phe Ser Ser Glu Lys Leu Gly Ala Ser Asp
65          70          75          80
Pro

```



<210> 4213  
 <211> 383  
 <212> DNA  
 <213> Homo sapiens

<400> 4213  
 nacgcgtacc tgtgccagcg cgcgcgcttc ttcgcagaga acgagggcct agacgactac  
 60  
 atggaggcac gcgagggcat gcacctcaag aacgtggact tccgtgagtt catggtggcc  
 120  
 ttcccggacc cggcccggcc gccctggtac gcctgctcgt cggccttctg ggccgcggcg  
 180  
 ctgctcacgc tgtcgtggcc gctgcgagtg ctggccgagt accgcacggc ctacgcgcac  
 240  
 taccacgtgg agaagctggt tggcctggag ggcccgggct cggccagcag cgcaggcggc  
 300  
 ggctcagcc ccagcgatga gctgctgccc ccgctcaccc accgcctgcc gcgggtcaac  
 360  
 acagtagaca gcacggagct cgg  
 383

<210> 4214  
 <211> 127  
 <212> PRT  
 <213> Homo sapiens

<400> 4214  
 Xaa Ala Tyr Leu Cys Gln Arg Ala Arg Phe Phe Ala Glu Asn Glu Gly  
 1 5 10 15  
 Leu Asp Asp Tyr Met Glu Ala Arg Glu Gly Met His Leu Lys Asn Val  
 20 25 30  
 Asp Phe Arg Glu Phe Met Val Ala Phe Pro Asp Pro Ala Arg Pro Pro  
 35 40 45  
 Trp Tyr Ala Cys Ser Ser Ala Phe Trp Ala Ala Ala Leu Leu Thr Leu  
 50 55 60  
 Ser Trp Pro Leu Arg Val Leu Ala Glu Tyr Arg Thr Ala Tyr Ala His  
 65 70 75 80  
 Tyr His Val Glu Lys Leu Phe Gly Leu Glu Gly Pro Gly Ser Ala Ser  
 85 90 95  
 Ser Ala Gly Gly Gly Leu Ser Pro Ser Asp Glu Leu Leu Pro Pro Leu  
 100 105 110  
 Thr His Arg Leu Pro Arg Val Asn Thr Val Asp Ser Thr Glu Leu  
 115 120 125

<210> 4215  
 <211> 939  
 <212> DNA  
 <213> Homo sapiens

<400> 4215  
 nggtacctcg gctgaataaa aattcaaaaa aacagcaatg gacaggaact tgagaagacg  
 60  
 ctggaagaaa gcaaagaaat ggatatcaaa cgtaaagaaa ataaaggcaa tgatacccct  
 120

ttggccctag agagtacaaa cactgaaaag gagacaagcc tggaggaaac aaaaatcggg  
 180  
 gagatcctga tccagggctt gacagaagat atggtgactg ttttaatccg ggcctgcgtg  
 240  
 agcatgctgg gagtccctgt ggaccagat actttgcatg ccaccctttg tttctgtttg  
 300  
 agggtcactc ggggccccca attagccatg atgtttgcag aactgaagaa taccgcgatg  
 360  
 atcttgaatt tgaccagag ctgaggttc aatgggttta ctcccctggg cacccttctc  
 420  
 ttaagacaca tcattgagga ccctgtacc cttcgtcata ccatggaaaa ggttggtcgc  
 480  
 tcagcageta caagtggagc tggtagcact acctctggtg ttgtgtctgg cagcctcggc  
 540  
 tctcgggaga tcaactacat ccttcgtgtc cttgggccag ccgcatgccg caatccagac  
 600  
 atattcacag aagtggccaa ctgctgtatc cgcctcgcgc ttcctgcccc tcgaggtca  
 660  
 ggaactgctt cagatgatga atttgagaat cttagaatta aaggccctaa tgctgtacag  
 720  
 ctggtgaaga ccacccttt gaagccctca cctctgctg tcatccctga tactatcaag  
 780  
 gaagtgatct atgatatgct gaatgctctg gctgcatacc atgctccaga ggaagcagat  
 840  
 aaatctgatc ctaaacctgg gggtatgacc caagaggttg gccagctcct gcaagacatg  
 900  
 ggtgatgatg tataccagca gtaccggtca cttacgcgt  
 939

&lt;210&gt; 4216

&lt;211&gt; 287

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4216

Met	Asp	Ile	Lys	Arg	Lys	Glu	Asn	Lys	Gly	Asn	Asp	Thr	Pro	Leu	Ala
1			5						10					15	
Leu	Glu	Ser	Thr	Asn	Thr	Glu	Lys	Glu	Thr	Ser	Leu	Glu	Glu	Thr	Lys
			20					25					30		
Ile	Gly	Glu	Ile	Leu	Ile	Gln	Gly	Leu	Thr	Glu	Asp	Met	Val	Thr	Val
			35				40					45			
Leu	Ile	Arg	Ala	Cys	Val	Ser	Met	Leu	Gly	Val	Pro	Val	Asp	Pro	Asp
			50				55				60				
Thr	Leu	His	Ala	Thr	Leu	Cys	Phe	Cys	Leu	Arg	Val	Thr	Arg	Gly	Pro
			65			70			75					80	
Gln	Leu	Ala	Met	Met	Phe	Ala	Glu	Leu	Lys	Asn	Thr	Arg	Met	Ile	Leu
			85					90					95		
Asn	Leu	Thr	Gln	Ser	Ser	Gly	Phe	Asn	Gly	Phe	Thr	Pro	Leu	Val	Thr
			100				105						110		
Leu	Leu	Leu	Arg	His	Ile	Ile	Glu	Asp	Pro	Cys	Thr	Leu	Arg	His	Thr
			115				120					125			
Met	Glu	Lys	Val	Val	Arg	Ser	Ala	Ala	Thr	Ser	Gly	Ala	Gly	Ser	Thr
			130				135					140			
Thr	Ser	Gly	Val	Val	Ser	Gly	Ser	Leu	Gly	Ser	Arg	Glu	Ile	Asn	Tyr

```

145          150          155          160
Ile Leu Arg Val Leu Gly Pro Ala Ala Cys Arg Asn Pro Asp Ile Phe
          165          170          175
Thr Glu Val Ala Asn Cys Cys Ile Arg Ile Ala Leu Pro Ala Pro Arg
          180          185          190
Gly Ser Gly Thr Ala Ser Asp Asp Glu Phe Glu Asn Leu Arg Ile Lys
          195          200          205
Gly Pro Asn Ala Val Gln Leu Val Lys Thr Thr Pro Leu Lys Pro Ser
          210          215          220
Pro Leu Pro Val Ile Pro Asp Thr Ile Lys Glu Val Ile Tyr Asp Met
225          230          235          240
Leu Asn Ala Leu Ala Ala Tyr His Ala Pro Glu Glu Ala Asp Lys Ser
          245          250          255
Asp Pro Lys Pro Gly Val Met Thr Gln Glu Val Gly Gln Leu Leu Gln
          260          265          270Met Gly Asp Asp
Val Tyr Gln Gln Tyr Arg Ser Leu Thr Arg
          275          280          285

```

&lt;210&gt; 4217

&lt;211&gt; 619

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4217

```

acacacacac gcacacaaaa ctcagccaca ggctcaccag ggtctctctc aacatgcaca
60
catacacaca cacacccttc agtcataggc tcacaagagt ctctcttgtc tctctctcat
120
acatacacac acacacacaa ccagccacag gccacaaaag gtgtctctct ctttgtccct
180
gtctgtcttc tcgcactcac acacacacat ctcagccaca ggcccaccag agtctgtctg
240
tctctttgtc tctctcactc tctctcacac acatacacct cagccacagg ccacaagg
300
tctctctcct tgtccctggc tcctctctct cgcacactcc cacacacaca catacagctc
360
agccacaggc ccacgagggt gtctctctct ctctctctct ctacacaca cacacacaca
420
cacacagcc tgtgcagctc cacagggggc tggggcagga gacagatctg aatacacata
480
ccaccctgtg ctgtgagtgg ccaactccat ccaacaactg agactttctg ttactggggc
540
aaggttttct gccaaactca cttcccttat aatgaatgaa ttatccctca gaaggttcca
600
cagtcctccc ctggcgcg
619

```

&lt;210&gt; 4218

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4218

Met His Thr Tyr Thr His Thr Pro Leu Ser His Arg Leu Thr Arg Val

```

      1           5           10           15
Ser Leu Val Ser Leu Ser Tyr Ile His Thr His Thr Gln Pro Ala Thr
      20           25           30
Gly Pro Gln Arg Cys Leu Ser Leu Cys Pro Cys Leu Leu Ser Arg Thr
      35           40           45
His Thr His Thr Ser Gln Pro Gln Ala His Gln Ser Leu Ser Val Ser
      50           55           60
Leu Ser Leu Ser Leu Ser Leu Thr His Ile His Leu Ser His Arg Pro
65           70           75           80
Thr Arg Val Ser Leu Leu Val Pro Gly Ser Ser Leu Ser His Thr Pro
      85           90           95
Thr His Thr His Thr Ala Gln Pro Gln Ala His Glu Gly Val Ser Leu
      100          105          110
Ser Leu Ser Leu Ser His Thr His Thr His Thr His Thr Pro Val Gln
      115          120          125
Leu His Arg Gly Leu Gly Gln Glu Thr Asp Leu Asn Thr His Thr Thr
      130          135          140
Leu Cys Cys Glu Trp Pro Leu Pro Ser Asn Asn
145          150          155

```

&lt;210&gt; 4219

&lt;211&gt; 774

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4219

```

ngcggccgcg cacctgctcc cgtcgcccta cagcaagatc acgccccgc ggaggcccca
60
ccgctgcagc agcggccacg gcagcgacaa cagcagcgtg ctgagcgggg agtccccgc
120
ggccatgggg aagacggccc tgttctacca cagcggcggc agcagcggct acgagagcgt
180
gatgcgggac agcgaggcca ccggcagcgc gtcctcggcg caggactcca cgagcgagaa
240
cagcagctcc gtgggcggca ggtgccggag cctcaagacc ccgaagaaac gtcctaatcc
300
aggttctcag agacggaggc ttatcccagc actatccctg gacacctctt cccctgtgag
360
aaaaccccc aacagcacag gcgtccgctg ggtggatggn nccccttgcg gagcagcccc
420
aggggccttg gggaaccttt gagattaaag tctnatgaaa tcgatgacgt ggagcgcctg
480
cagcggcgac gagggggtgc cagcaaggag gccatgtgct tcaatgcaaa gctgaagatt
540
ctggaacacc gccagcagag gatcgccgag gtccgcgcga agtacgagt gctgatgaag
600
gagctggagg cgaccaaaca gtatctgatg ctggatccca acaagtggct cagtgaattt
660
gacttgagc aggtttggga gctggattcc ctggagtacc tggaggcact ggagtgtgtg
720
acggagcgcc tggagagccg tgtcaacttc tgcaaggccc atctcatgat gctc
774

```

&lt;210&gt; 4220

<211> 258  
 <212> PRT  
 <213> Homo sapiens

<400> 4220

```

Xaa Gly Arg Ala Pro Ala Pro Val Ala Leu Gln Gln Asp His Ala Pro
 1          5          10          15
Ala Glu Ala Pro Pro Leu Gln Gln Arg Pro Arg Gln Arg Gln Gln Gln
 20          25          30
Arg Ala Glu Arg Gly Ala Pro Ala Gly His Gly Glu Asp Gly Pro Val
 35          40          45
Leu Pro Gln Arg Arg Gln Gln Arg Leu Arg Glu Arg Asp Ala Gly Gln
 50          55          60
Arg Gly His Arg Gln Arg Val Leu Gly Ala Gly Leu His Glu Arg Glu
 65          70          75          80
Gln Gln Leu Arg Gly Arg Gln Val Pro Glu Pro Gln Asp Pro Glu Glu
 85          90          95
Thr Leu Gln Ser Arg Phe Ser Glu Thr Glu Ala Tyr Pro Ser Thr Ile
 100         105         110
Pro Gly His Leu Phe Pro Cys Glu Lys Thr Pro Gln Gln His Arg Arg
 115         120         125
Pro Leu Gly Gly Trp Xaa Pro Leu Arg Ser Ser Pro Arg Gly Leu Gly
 130         135         140
Glu Pro Leu Arg Leu Lys Ser Xaa Glu Ile Asp Asp Val Glu Arg Leu
 145         150         155         160
Gln Arg Arg Arg Gly Gly Ala Ser Lys Glu Ala Met Cys Phe Asn Ala
 165         170         175
Lys Leu Lys Ile Leu Glu His Arg Gln Gln Arg Ile Ala Glu Val Arg
 180         185         190
Ala Lys Tyr Glu Trp Leu Met Lys Glu Leu Glu Ala Thr Lys Gln Tyr
 195         200         205
Leu Met Leu Asp Pro Asn Lys Trp Leu Ser Glu Phe Asp Leu Glu Gln
 210         215         220
Val Trp Glu Leu Asp Ser Leu Glu Tyr Leu Glu Ala Leu Glu Cys Val
 225         230         235         240
Thr Glu Arg Leu Glu Ser Arg Val Asn Phe Cys Lys Ala His Leu Met
 245         250         255
Met Leu

```

<210> 4221  
 <211> 789  
 <212> DNA  
 <213> Homo sapiens

<400> 4221

```

aatgtgaaga ggattaaaga ataaagaaaa aacaaaaaag tcttatacta aaataagaaa
60
tcagcccat cttggcacag ttctcatgca gaatattgca cccagtgtga actaacgcta
120
gaagcttcaa actgtataaa tttaaagtga ttgcatatt ataaaaataa agataaacat
180
atacatat ttt tacactagtt atggaacagc aatgaacgtc agtcgatccc tctttcacat
240

```

ttaacagaac tgaaatctga gtgctctaaa tactgccacc tgtactgtaa ctatggctta  
 300  
 tatgtgcacg gaaaacaaaa tccctgagaa gccattcgac tttttttttt tttcttttct  
 360  
 tcaagtagcg cgctccttgg aggatcacag ttctgagggt cagggtgtaa aacatttgct  
 420  
 ccatgtttct gtccatgctt cccccacca cccctcccc acctctccc cagtcgtcca  
 480  
 aaaagcacc tgcaagcacg cgttgtcact caagttcaca gaacacgctg gggtgagtgc  
 540  
 agagggtctg ccagggtgcaa aagatggtcc aggtgttcag atgctctctt ttctccatgg  
 600  
 aaattccaca gccacaaacg tcaactggtt ctgtgctttt caccaacatt cttcccttaa  
 660  
 aaattggtgc tctaaagtc acagtttggg tacagtaaaa atgatggcat aaggaaaaga  
 720  
 agcactatct ttccactta atttccaag aaagtatgaa gatacttgga acaggggctg  
 780  
 atcacagtc  
 789

&lt;210&gt; 4222

&lt;211&gt; 127

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4222

Met	Ala	Tyr	Met	Cys	Thr	Glu	Asn	Lys	Ile	Pro	Glu	Lys	Pro	Phe	Asp
1				5					10					15	
Phe	Phe	Phe	Phe	Ser	Phe	Leu	Gln	Val	Ala	Arg	Ser	Leu	Glu	Asp	His
			20				25					30			
Ser	Ser	Glu	Val	Gln	Val	Val	Lys	His	Leu	Leu	His	Val	Leu	Val	His
		35				40					45				
Ala	Ser	Pro	His	His	Pro	Leu	Pro	Thr	Ser	Ser	Pro	Val	Val	Gln	Lys
	50				55						60				
Ala	Pro	Cys	Lys	His	Ala	Leu	Ser	Leu	Lys	Phe	Thr	Glu	His	Ala	Gly
65				70					75					80	
Val	Ser	Ala	Glu	Gly	Leu	Pro	Gly	Ala	Lys	Asp	Gly	Pro	Gly	Val	Gln
			85				90						95		
Met	Leu	Ser	Phe	Leu	His	Gly	Asn	Ser	Thr	Ala	Thr	Asn	Val	Thr	Gly
		100					105					110			
Phe	Cys	Ala	Phe	His	Gln	His	Ser	Ser	Leu	Lys	Asn	Trp	Cys	Ser	
	115					120						125			

&lt;210&gt; 4223

&lt;211&gt; 852

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4223

atcctggacc agggctacta ctccggagcga gacacaagca acgtggtagc gcaagtcctg  
 60  
 gaggcctgg cctatttgca ctcaactcaag atcgtgcaca ggaatctcaa gctggagaac  
 120

ctggtttact acaaccggct gaagaactcg aagattgtca tcagtgactt ccatctggct  
 180  
 aagctagaaa atggcctcat caaggagccc tgtgggaccc ccgaagattt tgcccccaa  
 240  
 ggggaaggcc ggcagcggta tggacgccct gtggactgct gggccattgg agtcatcatg  
 300  
 tacatcctgc tttcaggcaa tccacctttc tatgaggagg tggaagaaga tgattatgag  
 360  
 aaccatgata agaatctctt ccgcaagatc ctggctgggtg actatgagtt tgactctcca  
 420  
 tattgggatg atatttcgca ggcagccaaa gacctggtca caaggctgat ggaggtggag  
 480  
 caagaccagc ggatcactgc agaagaggcc atctcccatg agtggatttc tggcaatgct  
 540  
 gcttctgata agaacatcaa ggatggtgtc tgtgcccaga ttgaaaagaa ctttgccagg  
 600  
 gccaaagtga agaaggtgt cggagtgacc accctcatga aacggctccg ggcaccagag  
 660  
 cagtcagca cggctgcagc ccagtcggcc tcagccacag aactgccac ccccggggct  
 720  
 gcagaccgta gtgccacccc agccacagat ggaagtgcc cccagccac tgatggcagt  
 780  
 gtcaccccag ccaccgatgg aagcatcact ccagccattg atgggagtgt caccacagcc  
 840  
 actgacagga gc  
 852

&lt;210&gt; 4224

&lt;211&gt; 284

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4224

Ile	Leu	Asp	Gln	Gly	Tyr	Tyr	Ser	Glu	Arg	Asp	Thr	Ser	Asn	Val	Val
1				5					10					15	
Arg	Gln	Val	Leu	Glu	Ala	Val	Ala	Tyr	Leu	His	Ser	Leu	Lys	Ile	Val
		20						25					30		
His	Arg	Asn	Leu	Lys	Leu	Glu	Asn	Leu	Val	Tyr	Tyr	Asn	Arg	Leu	Lys
		35					40					45			
Asn	Ser	Lys	Ile	Val	Ile	Ser	Asp	Phe	His	Leu	Ala	Lys	Leu	Glu	Asn
		50				55				60					
Gly	Leu	Ile	Lys	Glu	Pro	Cys	Gly	Thr	Pro	Glu	Asp	Phe	Ala	Pro	Gln
65					70					75				80	
Gly	Glu	Gly	Arg	Gln	Arg	Tyr	Gly	Arg	Pro	Val	Asp	Cys	Trp	Ala	Ile
			85						90					95	
Gly	Val	Ile	Met	Tyr	Ile	Leu	Leu	Ser	Gly	Asn	Pro	Pro	Phe	Tyr	Glu
			100					105					110		
Glu	Val	Glu	Glu	Asp	Asp	Tyr	Glu	Asn	His	Asp	Lys	Asn	Leu	Phe	Arg
		115					120					125			
Lys	Ile	Leu	Ala	Gly	Asp	Tyr	Glu	Phe	Asp	Ser	Pro	Tyr	Trp	Asp	Asp
		130				135					140				
Ile	Ser	Gln	Ala	Ala	Lys	Asp	Leu	Val	Thr	Arg	Leu	Met	Glu	Val	Glu
145					150					155				160	
Gln	Asp	Gln	Arg	Ile	Thr	Ala	Glu	Glu	Ala	Ile	Ser	His	Glu	Trp	Ile

```

                165                170                175
Ser Gly Asn Ala Ala Ser Asp Lys Asn Ile Lys Asp Gly Val Cys Ala
                180                185                190
Gln Ile Glu Lys Asn Phe Ala Arg Ala Lys Trp Lys Lys Ala Val Arg
                195                200                205
Val Thr Thr Leu Met Lys Arg Leu Arg Ala Pro Glu Gln Ser Ser Thr
                210                215                220
Ala Ala Ala Gln Ser Ala Ser Ala Thr Asp Thr Ala Thr Pro Gly Ala
225                230                235                240
Ala Asp Arg Ser Ala Thr Pro Ala Thr Asp Gly Ser Ala Thr Pro Ala
                245                250                255
Thr Asp Gly Ser Val Thr Pro Ala Thr Asp Gly Ser Ile Thr Pro Ala
                260                265                270
Ile Asp Gly Ser Val Thr Pro Ala Thr Asp Arg Ser
                275                280

```

&lt;210&gt; 4225

&lt;211&gt; 470

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4225

```

nntgtacaag aaagtgagcc agtcacgctc aatattcaag tgatggatgc aaatgataac
60
acgccaacct tccctgaaat atcctatgat gtgtatgttt atacagacat gagacctggg
120
gacagggtcc tacagttaac tgcagtcgac gcagacgaag ggtcaaattgg ggagatcaca
180
tatgaaatcc ttgttggggc tcaggagagac ttcacatca ataaaacaac agggcttatac
240
accatcgctc caggggtgga aatgatagtc gggcggactt acgcactccc ggtccaagca
300
gcggataatg ctctcctgc aaagcaaagg actcccatct gcactgtgta tattgaagtg
360
cttcacacaa ataataaaag cctcctcgc ttccacagc tgatgtatag ccttgaaatt
420
agtgaagcca tgagggttgg tgctgtttta ttaaacttac aggcaactga
470

```

&lt;210&gt; 4226

&lt;211&gt; 156

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4226

```

Xaa Val Gln Glu Ser Glu Pro Val Ile Val Asn Ile Gln Val Met Asp
1      5      10      15
Ala Asn Asp Asn Thr Pro Thr Phe Pro Glu Ile Ser Tyr Asp Val Tyr
20     25     30
Val Tyr Thr Asp Met Arg Pro Gly Asp Arg Val Leu Gln Leu Thr Ala
35     40     45
Val Asp Ala Asp Glu Gly Ser Asn Gly Glu Ile Thr Tyr Glu Ile Leu
50     55     60
Val Gly Ala Gln Gly Asp Phe Ile Ile Asn Lys Thr Thr Gly Leu Ile

```



65		70		75		80									
Thr	Ile	Ala	Pro	Gly	Val	Glu	Met	Ile	Val	Gly	Arg	Thr	Tyr	Ala	Leu
		85							90					95	
Pro	Val	Gln	Ala	Ala	Asp	Asn	Ala	Pro	Pro	Ala	Lys	Gln	Arg	Thr	Pro
		100						105					110		
Ile	Cys	Thr	Val	Tyr	Ile	Glu	Val	Leu	Pro	Pro	Asn	Asn	Gln	Ser	Pro
		115					120					125			
Pro	Arg	Phe	Pro	Gln	Leu	Met	Tyr	Ser	Leu	Glu	Ile	Ser	Glu	Ala	Met
	130					135					140				
Arg	Val	Gly	Ala	Val	Leu	Leu	Asn	Leu	Gln	Ala	Thr				
145					150					155					

&lt;210&gt; 4227

&lt;211&gt; 1199

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4227

nnaagcttat ggccagtgtt aatttggtat ttcttaaata actttccctt tcatttttaa

60

attataaatt taacttctaa catgttttat ggtaaatt gtactttttt ccttagcga

120

cattcaaag catcacaatc actttgtgaa attgttcgcc tgagcagaga ccagatgtta

180

caaattcaga acagtacaga gcccgacccc ctgcttgcca ctctagaaaa gcaagaaatt

240

atagagcagc ttctatcaaa tttttccac aaggagaaaa atgagtcagc catagtcagt

300

gcaatccaga tattgctgac tttacttgag acacgacgac caacatttga aggccatata

360

gagatctgcc caccaggcat gagccattca gcttggtcag taaacaagag tgttctagaa

420

gccatcagag gaagacttgg atcttttcat gaactcctgc tggagccacc caagaaaagt

480

gtgatgaaga ccacatgggg tgtgctggat cctcctgtgg ggaataccog gttgaatgtc

540

attaggttga tatccagcct gtttcaaacc aataccagca gtataaatgg ggaccttatg

600

gagctgaata gcattggagt catattgaac atgttcttca agtatacatg gaataacttt

660

ttgcatacac aagtggaaat ttgtattgca ctgattcttg caagtccttt tgaaaacaca

720

gaaaatgcca caattaccga tcaagactcc actggtgata atttgttatt aaaacatctt

780

ttccaaaaat gtcaattaat agaacgaata cttgaagcct gggaaatgaa tgagaagaaa

840

caggctgagg gaggaagacg gcatgggttac atgggacacc taacgaggat agctaactgt

900

atcgtgcaca gcaactgacaa gggccccaac agtgcattag tgcagcagct tatcaaaggt

960

aagttatttg tgaaatttga attacatttt tgttgggttg caggaaggat ttaaggggtca

1020

agtagaaatg catgtagcat ttttaatagt gatttgtggg acttctttat atttggcaaa

1080

ttatgtattt gaatgaggtt cttgagaatg tgtttgaaca gggttgtttt ttgggttgta  
 1140  
 ttttatgttc atgtagttac agaccattcc ataagcattg gcaggcttgg ctggattca  
 1199

<210> 4228  
 <211> 298  
 <212> PRT  
 <213> Homo sapiens

<400> 4228  
 Arg His Ser Asn Ala Ser Gln Ser Leu Cys Glu Ile Val Arg Leu Ser  
 1 5 10 15  
 Arg Asp Gln Met Leu Gln Ile Gln Asn Ser Thr Glu Pro Asp Pro Leu  
 20 25 30  
 Leu Ala Thr Leu Glu Lys Gln Glu Ile Ile Glu Gln Leu Leu Ser Asn  
 35 40 45  
 Ile Phe His Lys Glu Lys Asn Glu Ser Ala Ile Val Ser Ala Ile Gln  
 50 55 60  
 Ile Leu Leu Thr Leu Leu Glu Thr Arg Arg Pro Thr Phe Glu Gly His  
 65 70 75 80  
 Ile Glu Ile Cys Pro Gly Met Ser His Ser Ala Cys Ser Val Asn  
 85 90 95  
 Lys Ser Val Leu Glu Ala Ile Arg Gly Arg Leu Gly Ser Phe His Glu  
 100 105 110  
 Leu Leu Leu Glu Pro Pro Lys Lys Ser Val Met Lys Thr Thr Trp Gly  
 115 120 125  
 Val Leu Asp Pro Pro Val Gly Asn Thr Arg Leu Asn Val Ile Arg Leu  
 130 135 140  
 Ile Ser Ser Leu Leu Gln Thr Asn Thr Ser Ser Ile Asn Gly Asp Leu  
 145 150 155 160  
 Met Glu Leu Asn Ser Ile Gly Val Ile Leu Asn Met Phe Phe Lys Tyr  
 165 170 175  
 Thr Trp Asn Asn Phe Leu His Thr Gln Val Glu Ile Cys Ile Ala Leu  
 180 185 190  
 Ile Leu Ala Ser Pro Phe Glu Asn Thr Glu Asn Ala Thr Ile Thr Asp  
 195 200 205  
 Gln Asp Ser Thr Gly Asp Asn Leu Leu Leu Lys His Leu Phe Gln Lys  
 210 215 220  
 Cys Gln Leu Ile Glu Arg Ile Leu Glu Ala Trp Glu Met Asn Glu Lys  
 225 230 235 240  
 Lys Gln Ala Glu Gly Gly Arg Arg His Gly Tyr Met Gly His Leu Thr  
 245 250 255  
 Arg Ile Ala Asn Cys Ile Val His Ser Thr Asp Lys Gly Pro Asn Ser  
 260 265 270  
 Ala Leu Val Gln Gln Leu Ile Lys Gly Lys Leu Phe Val Lys Phe Glu  
 275 280 285  
 Leu His Phe Cys Trp Val Ala Gly Arg Ile  
 290 295

<210> 4229  
 <211> 1612  
 <212> DNA  
 <213> Homo sapiens

<400> 4229  
ncgggggtct ccacccctgga ccaggacctg gactacctgt ccgaaggcct cgaaggccga  
60  
tcccaaagcc ccgtggccct gctctttgat gcccttctac gccagacac agactttggg  
120  
ggaaacatga agtcggtcct cacctggaag caccggaagg agcacgcat cccccacgtg  
180  
gttctgggccc ggaacctccc cgggggagcc tggcactcca tcgaaggctc catggtgatc  
240  
ctgagccaag gccagtggat ggggctcccg gacctggagg tcaaggactg gatgcagaag  
300  
aagcgaagag gtcttcgcaa cagccgggccc actgccgggg acatcgcccc ctactacagg  
360  
gactacgtgg tcaagaaggg tctggggcat aactttgtgt ccggtgctgt agtcacagcc  
420  
gtggagtggg ggacccccga tcccagcagc tgtggggccc aggactccag cccctcttc  
480  
caggtgagcg gcttcctgac caggaaccag gccagcagc ccttctcgct gtgggcccgc  
540  
aacgtggtcc tcgccacagg cacgttcgac agcccgccc ggctgggcat ccccggggag  
600  
gccctgccct tcacccacca tgagctgtct gccctggagg ccgccacaag ggtgggtgcg  
660  
gtgacccccg cctcagacct tgctctcatc attggcgcg ggctgtcagc ggccgacgcc  
720  
gtcctctacg ccgcccacta caacatcccg gtgatccatg ccttcgccc ggccgtggac  
780  
gacctggcc tgggtgtcaa ccagctgccc aagatgctgt accccgagta ccacaagggt  
840  
caccagatga tgcgggagca gtccatcctg tcgccagcc cctatgaggg ttaccgcagc  
900  
ctccccaggc accagctgct gtgcttcaag gaagactgcc aggcctgtgt ccaggacctc  
960  
gaggggtgtc agaagggtgt tgggggtctc ctggtgctgg tctcatcgg cttccacccc  
1020  
gacctctcct tctgcttg ggaggggct gactttgcag tggatcctga ccagccgctg  
1080  
agcgccaaga ggaaccccat tgacgtggac cccttcacct accagagcac ccgccaggag  
1140  
ggcctgtacg ccatggggcc gctggccggg gacaacttcg tgaggtttgt gcaggggggc  
1200  
gccttggtg tggccagctc cctgctaagg aaggagacca ggaagccacc ctaacactc  
1260  
gccagaccg ctggctccca ggccctgaga ggacagagat gaccacatcc ctgctggatg  
1320  
caggaccgt ccaaagatgc cccggggagg ggtgtcagcc cacgttgctg gcctttggg  
1380  
tcaagaggag tagggatccc aggtgccct ggacttagac cagtgtctga ggttggactt  
1440  
agaccagtgt gtgaggtgg aacagcgccc gcagcaggg gttggcctag acctgggatt  
1500  
tgtggggaaa gctgctggtg tgaccagctg agcaccagc caggagacct gcagccctgc  
1560

gccttccaga agcagggtccc aaataaagcc agtgcccacc tgaaaaaaaa aa  
1612

<210> 4230

<211> 417

<212> PRT

<213> Homo sapiens

<400> 4230

Xaa	Gly	Val	Ser	Ile	Leu	Asp	Gln	Asp	Leu	Asp	Tyr	Leu	Ser	Glu	Gly
1				5					10					15	
Leu	Glu	Gly	Arg	Ser	Gln	Ser	Pro	Val	Ala	Leu	Leu	Phe	Asp	Ala	Leu
			20					25					30		
Leu	Arg	Pro	Asp	Thr	Asp	Phe	Gly	Gly	Asn	Met	Lys	Ser	Val	Leu	Thr
		35					40					45			
Trp	Lys	His	Arg	Lys	Glu	His	Ala	Ile	Pro	His	Val	Val	Leu	Gly	Arg
	50					55					60				
Asn	Leu	Pro	Gly	Gly	Ala	Trp	His	Ser	Ile	Glu	Gly	Ser	Met	Val	Ile
65					70					75				80	
Leu	Ser	Gln	Gly	Gln	Trp	Met	Gly	Leu	Pro	Asp	Leu	Glu	Val	Lys	Asp
			85						90					95	
Trp	Met	Gln	Lys	Lys	Arg	Arg	Gly	Leu	Arg	Asn	Ser	Arg	Ala	Thr	Ala
		100						105					110		
Gly	Asp	Ile	Ala	His	Tyr	Tyr	Arg	Asp	Tyr	Val	Val	Lys	Lys	Gly	Leu
	115						120					125			
Gly	His	Asn	Phe	Val	Ser	Gly	Ala	Val	Val	Thr	Ala	Val	Glu	Trp	Gly
	130					135					140				
Thr	Pro	Asp	Pro	Ser	Ser	Cys	Gly	Ala	Gln	Asp	Ser	Ser	Pro	Leu	Phe
145					150					155				160	
Gln	Val	Ser	Gly	Phe	Leu	Thr	Arg	Asn	Gln	Ala	Gln	Gln	Pro	Phe	Ser
			165					170					175		
Leu	Trp	Ala	Arg	Asn	Val	Val	Leu	Ala	Thr	Gly	Thr	Phe	Asp	Ser	Pro
		180						185					190		
Ala	Arg	Leu	Gly	Ile	Pro	Gly	Glu	Ala	Leu	Pro	Phe	Ile	His	His	Glu
	195					200					205				
Leu	Ser	Ala	Leu	Glu	Ala	Ala	Thr	Arg	Val	Gly	Ala	Val	Thr	Pro	Ala
	210					215					220				
Ser	Asp	Pro	Val	Leu	Ile	Ile	Gly	Ala	Gly	Leu	Ser	Ala	Ala	Asp	Ala
225					230					235				240	
Val	Leu	Tyr	Ala	Arg	His	Tyr	Asn	Ile	Pro	Val	Ile	His	Ala	Phe	Arg
			245					250					255		
Arg	Ala	Val	Asp	Asp	Pro	Gly	Leu	Val	Phe	Asn	Gln	Leu	Pro	Lys	Met
		260						265					270		
Leu	Tyr	Pro	Glu	Tyr	His	Lys	Val	His	Gln	Met	Met	Arg	Glu	Gln	Ser
	275					280						285			
Ile	Leu	Ser	Pro	Ser	Pro	Tyr	Glu	Gly	Tyr	Arg	Ser	Leu	Pro	Arg	His
	290					295					300				
Gln	Leu	Leu	Cys	Phe	Lys	Glu	Asp	Cys	Gln	Ala	Val	Phe	Gln	Asp	Leu
305					310					315				320	
Glu	Gly	Val	Glu	Lys	Val	Phe	Gly	Val	Ser	Leu	Val	Leu	Val	Leu	Ile
			325					330					335		
Gly	Ser	His	Pro	Asp	Leu	Ser	Phe	Leu	Pro	Gly	Ala	Gly	Ala	Asp	Phe
		340						345				350			
Ala	Val	Asp	Pro	Asp	Gln	Pro	Leu	Ser	Ala	Lys	Arg	Asn	Pro	Ile	Asp

355	360	365
Val Asp Pro Phe Thr Tyr Gln Ser Thr Arg Gln Glu Gly Leu Tyr Ala		
370	375	380
Met Gly Pro Leu Ala Gly Asp Asn Phe Val Arg Phe Val Gln Gly Gly		
385	390	395
Ala Leu Ala Val Ala Ser Ser Leu Leu Arg Lys Glu Thr Arg Lys Pro		
405	410	415
Pro		

&lt;210&gt; 4231

&lt;211&gt; 1588

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4231

```

ncgactacag acacagacgg tgccgccgag acttgtgtct cagtacagtg tcagaagcaa
60
attaaagaac ttcgagatca aattgtatct gttcaggagg aaaagaagat tttagccatt
120
gagctggaaa atctcaagag caaactcgta gaagtaattg aagaagtaaa taaagttaaa
180
caagaaaaga ctgttttaaa ttcagaagtt cttgaacaga gaaaagtctt agaaaaatgc
240
aatagagtgt ccatgttagc tgtagaagag tatgaggaga tgcaagtaaa cctggagctg
300
gagaaggacc ttcgaaagaa agcagagtca ttgcccag agatgttctt tgagccaaac
360
cagggtaaaa agacaaagcc cccctttggg cggcagagtt ccctccttga tcagcagtta
420
gcttttagacg aaaatgcaaa actcaccag caacttgaag aagagagaat tcagcatcaa
480
caaaaggtca aagaattaga agagcaacta gaaaatgaaa cactccacaa agaaatacac
540
aacctcaaac agcaactgga gcttctagag gaagataaaa aggaattgga attgaaatat
600
cagaattctg aagagaaagc cagaaattta aagcactctg ttgatgaact ccagaaacga
660
gtgaaccagt ctgagaattc agtacctcca ccactcctc ctccaccacc acttccccct
720
ccactccca atcctatccg atccctcatg tccatgatcc ggaaacgatc ccacccagtc
780
ggcagtggty ctaagaaaga aaaggcaact caaccagaaa caactgaaga agtcacagat
840
ctaaagaggc aagcagttga agagatgatg gatagaatta aaaagggagt tcctcttaga
900
cccgtaatc agacagccag accgaagaca aagccagaat cttcgaaagg ctgcgaaagt
960
gcagtggatg aactaaaagg aatactgggg acacttaaca aatccactag ttcaagaagc
1020
ttaaaatccc ttgaccctga aaacagtga actgagttag aaaggatttt gcgtcgcaga
1080
aaggtagacag cagaagcaga tagcagtagt ccaactggga tattagccac ctgagagtcc
1140

```

aaatccatgc cagtgttggg ttctgtatcc agtgaacaa aaacagcctt gaacaagaaa  
 1200  
 actctggagg cagaattcaa cagcccgctc ccccaacac ctgagccagg tgaaggggccc  
 1260  
 cgtaaattgg aaggatgcac aagttccaag gttacgtttc agtaagtaac gatgctcttt  
 1320  
 actaagtggg gtatagaaga atctgtaatg actaacttgt gtgtttcttt gatttgtttc  
 1380  
 ctttagagag attttgattg gctcgccggt aaattctctt cttcttttca tttgatgggc  
 1440  
 cagctttttc attctaggct cctagataag agatctaatt aagatccaaa gcaagtacca  
 1500  
 tgtacaaaga gaattacttc ccctaaactg gtttggaat caggttctta tacacaaata  
 1560  
 attgatctgg atgatacaga ctctgcag  
 1588

<210> 4232

<211> 434

<212> PRT

<213> Homo sapiens

<400> 4232

Xaa	Thr	Thr	Asp	Thr	Asp	Gly	Ala	Ala	Glu	Thr	Cys	Val	Ser	Val	Gln
1				5					10					15	
Cys	Gln	Lys	Gln	Ile	Lys	Glu	Leu	Arg	Asp	Gln	Ile	Val	Ser	Val	Gln
			20					25					30		
Glu	Glu	Lys	Lys	Ile	Leu	Ala	Ile	Glu	Leu	Glu	Asn	Leu	Lys	Ser	Lys
		35				40					45				
Leu	Val	Glu	Val	Ile	Glu	Glu	Val	Asn	Lys	Val	Lys	Gln	Glu	Lys	Thr
	50				55					60					
Val	Leu	Asn	Ser	Glu	Val	Leu	Glu	Gln	Arg	Lys	Val	Leu	Glu	Lys	Cys
65				70					75					80	
Asn	Arg	Val	Ser	Met	Leu	Ala	Val	Glu	Glu	Tyr	Glu	Glu	Met	Gln	Val
			85					90					95		
Asn	Leu	Glu	Leu	Glu	Lys	Asp	Leu	Arg	Lys	Lys	Ala	Glu	Ser	Phe	Ala
		100					105						110		
Gln	Glu	Met	Phe	Leu	Glu	Pro	Asn	Gln	Gly	Lys	Lys	Thr	Lys	Pro	Pro
	115					120						125			
Phe	Gly	Arg	Gln	Ser	Ser	Ile	Leu	Asp	Gln	Gln	Leu	Ala	Leu	Asp	Glu
	130				135					140					
Asn	Ala	Lys	Leu	Thr	Gln	Gln	Leu	Glu	Glu	Glu	Arg	Ile	Gln	His	Gln
145				150					155					160	
Gln	Lys	Val	Lys	Glu	Leu	Glu	Glu	Gln	Leu	Glu	Asn	Glu	Thr	Leu	His
			165					170					175		
Lys	Glu	Ile	His	Asn	Leu	Lys	Gln	Gln	Leu	Glu	Leu	Leu	Glu	Glu	Asp
		180					185					190			
Lys	Lys	Glu	Leu	Glu	Leu	Lys	Tyr	Gln	Asn	Ser	Glu	Glu	Lys	Ala	Arg
	195					200					205				
Asn	Leu	Lys	His	Ser	Val	Asp	Glu	Leu	Gln	Lys	Arg	Val	Asn	Gln	Ser
	210				215						220				
Glu	Asn	Ser	Val	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Leu	Pro	Pro
225				230					235					240	
Pro	Pro	Pro	Asn	Pro	Ile	Arg	Ser	Leu	Met	Ser	Met	Ile	Arg	Lys	Arg

```
<210> 4233
<211> 2827
<212> DNA
<213> Homo sapiens
```

3423

gatctttctg atgttgcaat gaaggtaaaa ttacagaaag agtttcgtaa aaagggtgat  
720  
gctgcaaagc tgagagtcca ggtcttacag aagaagcaac aagatagtaa gaaactggca  
780  
tcactgtcaa tccaaatga gaaacgtgct aatgaactag agcagagtgt agatcacatg  
840  
aaatatcaaa agatacagct acaaagaaaa ctacgagaag aaaatgaaaa aaggaagcaa  
900  
ctggatgcag taattaagcg ggaccagcaa aaaatcaaag taatacaatt aaaaacagga  
960  
caggaagaag gtctaaaacc gaaagctgag gaccttgatg catgtaactt gaaaaggaga  
1020  
aaagggttcgt ttggaagtat agaccatctc cagaaattgg atgagcaaaa gaaatggtta  
1080  
gatgaagaag tagagaaagt tctgaaccaa cgccaagaat tagaggagct ggaagcagac  
1140  
ttaaagaaac gggaggccat agtttctaaag aaggaggctc tgttacagga gaagagtcac  
1200  
ctggaaaaata agaaattgag atctagtcag gccttaaaca cagatagttt gaaaatatca  
1260  
actcgctga acttactgga acaagagttg tctgaaaaga atgtgcagct ccagaccagt  
1320  
acagctgagg agaaaacaaa gatttcagaa caagttgaag tcctccagaa agaaaaggat  
1380  
cagctccaga aacgcagaca cgatgtggat gaaaaactta aaaatggtag agtggttatca  
1440  
cctgaagaag aacatgttct ttccaactt gaagaagga tagaagcttt ggaagctgca  
1500  
attgaatata ggaatgaaag tatccagaat cgccagaagt cacttagagc atcattccat  
1560  
aacctctctc gtggtgaagc aaatgtcttg gaaaagctag cttgcctgag tcctgttgag  
1620  
attagaacta ttcttttcag atatttcaat aaggtggtga atttgcgaga agctgaacgg  
1680  
aaacaacagt tatataatga agaaatgaaa atgaaagttc tggaacggga taatatggtt  
1740  
cgtgaattag aatctgcact ggaccatcta aaattgcagt gtgaccggag actgaccctc  
1800  
cagcaaaaagg aacacgaaca aaagatgcag ttgctattac atcatttcaa agaacaagat  
1860  
ggagaaggca ttatggaac ttcaaaaaca tatgaagata aaatccagca gttggaaaaa  
1920  
gatctttatt tctataagaa aaccagccgg gatcataaga agaaacttaa ggaactggta  
1980  
ggggaagcaa ttcggcggca actagcatca tcagagtatc aagaggctgg agatggagtc  
2040  
ctgaagccag aaggaggagg catgctttca gaagaattaa aatgggcatc cagacctgaa  
2100  
agtatgaaat taagtggaag agaaagagaa atggacagtt cagcaagcag cttaagaaca  
2160  
cagccaaatc ctcaaaagct ctgggaagat atcccagaat tacctccaat tcatagttct  
2220  
ttagaccccc ccagtgggca tatgttaggt aatgagaata aaacagaaac agatgataat  
2280



cagtttataa aatctcacag tcgactgtca tcccaaattc aggttggtggg aaatgtggga  
 2340  
 cgacttcacg gtgtcacacc tgtaaaactg tgcgaaaag aattacgtca aatttccgcc  
 2400  
 ttggaactat cattgcgacg ttccagtctt ggagttggca ttggatcaat ggctgctgat  
 2460  
 tccatcgaag tatctaggaa accaagggac ttaaaaactt agacattgaa taatagaact  
 2520  
 ttttagtagat atgtaaaaag attccttttt ctaacctgtt aaaaactaaa gctcaagttc  
 2580  
 actacctctt tcctcagaat aaaggaagaa ggggaggaag gaatccctaa ttcttttata  
 2640  
 tgctatagat gtgtacatct tctatatata tttggggagt tttagtttat attcccatag  
 2700  
 taatcaaaca tgttttccaa tacttgataa catttaaata tttataaata cgcttaaagt  
 2760  
 tttttccagg catatttgaa gattaaaact agtaatagac taaaaaaaaa aaaaaaaaaa  
 2820  
 aaaaaag  
 2827

&lt;210&gt; 4234

&lt;211&gt; 833

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4234

Gly Ser Leu Lys Gly Asp His Ile Leu Tyr His Leu Ile Leu Ile Trp  
 1 5 10 15  
 Gly Ile Ile Phe Ile Ser His Gln Asp Lys Ile Pro Gly Gly Gly Ile  
 20 25 30  
 Thr Cys Lys Val His Thr Ser Pro Met Tyr Ser Leu Asp Arg Ile  
 35 40 45  
 Phe Ala Gly Phe Arg Thr Arg Ser Gln Met Leu Leu Gly His Ile Glu  
 50 55 60  
 Glu Gln Asp Lys Val Leu His Cys Gln Phe Ser Asp Asn Ser Asp Asp  
 65 70 75 80  
 Glu Glu Ser Glu Gly Gln Glu Lys Ser Gly Thr Arg Cys Arg Ser Arg  
 85 90 95  
 Ser Trp Ile Gln Lys Pro Asp Ser Val Cys Ser Leu Val Glu Leu Ser  
 100 105 110  
 Asp Thr Gln Asp Glu Thr Gln Lys Ser Asp Leu Glu Asn Glu Asp Leu  
 115 120 125  
 Lys Ile Asp Cys Leu Gln Glu Ser Gln Glu Leu Asn Leu Gln Lys Leu  
 130 135 140  
 Lys Asn Ser Glu Arg Ile Leu Thr Glu Ala Lys Gln Lys Met Arg Glu  
 145 150 155 160  
 Leu Thr Val Asn Ile Lys Met Lys Glu Asp Leu Ile Lys Glu Leu Ile  
 165 170 175  
 Lys Thr Gly Asn Asp Ala Lys Ser Val Ser Lys Gln Tyr Thr Leu Lys  
 180 185 190  
 Val Thr Lys Leu Glu His Asp Ala Glu Gln Ala Lys Val Glu Leu Thr  
 195 200 205  
 Glu Thr Gln Lys Gln Leu Gln Glu Leu Glu Asn Lys Asp Leu Ser Asp

210	215	220
Val Ala Met Lys Val Lys Leu Gln Lys Glu Phe Arg Lys Lys Val Asp		
225	230	235
Ala Ala Lys Leu Arg Val Gln Val Leu Gln Lys Lys Gln Gln Asp Ser		240
	245	250
Lys Lys Leu Ala Ser Leu Ser Ile Gln Asn Glu Lys Arg Ala Asn Glu		255
	260	265
Leu Glu Gln Ser Val Asp His Met Lys Tyr Gln Lys Ile Gln Leu Gln		270
	275	280
Arg Lys Leu Arg Glu Glu Asn Glu Lys Arg Lys Gln Leu Asp Ala Val		285
	290	295
Ile Lys Arg Asp Gln Gln Lys Ile Lys Val Ile Gln Leu Lys Thr Gly		300
305	310	315
Gln Glu Glu Gly Leu Lys Pro Lys Ala Glu Asp Leu Asp Ala Cys Asn		320
	325	330
Leu Lys Arg Arg Lys Gly Ser Phe Gly Ser Ile Asp His Leu Gln Lys		335
	340	345
Leu Asp Glu Gln Lys Lys Trp Leu Asp Glu Glu Val Glu Lys Val Leu		350
	355	360
Asn Gln Arg Gln Glu Leu Glu Glu Leu Glu Ala Asp Leu Lys Lys Arg		365
	370	375
Glu Ala Ile Val Ser Lys Lys Glu Ala Leu Leu Gln Glu Lys Ser His		380
385	390	395
Leu Glu Asn Lys Lys Leu Arg Ser Ser Gln Ala Leu Asn Thr Asp Ser		400
	405	410
Leu Lys Ile Ser Thr Arg Leu Asn Leu Leu Glu Gln Glu Leu Ser Glu		415
	420	425
Lys Asn Val Gln Leu Gln Thr Ser Thr Ala Glu Glu Lys Thr Lys Ile		430
	435	440
Ser Glu Gln Val Glu Val Leu Gln Lys Glu Lys Asp Gln Leu Gln Lys		445
	450	455
Arg Arg His Asp Val Asp Glu Lys Leu Lys Asn Gly Arg Val Leu Ser		460
465	470	475
Pro Glu Glu Glu His Val Leu Phe Gln Leu Glu Glu Gly Ile Glu Ala		480
	485	490
Leu Glu Ala Ala Ile Glu Tyr Arg Asn Glu Ser Ile Gln Asn Arg Gln		495
	500	505
Lys Ser Leu Arg Ala Ser Phe His Asn Leu Ser Arg Gly Glu Ala Asn		510
	515	520
Val Leu Glu Lys Leu Ala Cys Leu Ser Pro Val Glu Ile Arg Thr Ile		525
	530	535
Leu Phe Arg Tyr Phe Asn Lys Val Val Asn Leu Arg Glu Ala Glu Arg		540
545	550	555
Lys Gln Gln Leu Tyr Asn Glu Glu Met Lys Met Lys Val Leu Glu Arg		560
	565	570
Asp Asn Met Val Arg Glu Leu Glu Ser Ala Leu Asp His Leu Lys Leu		575
	580	585
Gln Cys Asp Arg Arg Leu Thr Leu Gln Gln Lys Glu His Glu Gln Lys		590
	595	600
Met Gln Leu Leu Leu His His Phe Lys Glu Gln Asp Gly Glu Gly Ile		605
	610	615
Met Glu Thr Phe Lys Thr Tyr Glu Asp Lys Ile Gln Gln Leu Glu Lys		620
625	630	635
Asp Leu Tyr Phe Tyr Lys Lys Thr Ser Arg Asp His Lys Lys Lys Leu		640

645 650 655  
 Lys Glu Leu Val Gly Glu Ala Ile Arg Arg Gln Leu Ala Ser Ser Glu  
 660 665 670  
 Tyr Gln Glu Ala Gly Asp Gly Val Leu Lys Pro Glu Gly Gly Gly Met  
 675 680 685  
 Leu Ser Glu Glu Leu Lys Trp Ala Ser Arg Pro Glu Ser Met Lys Leu  
 690 695 700  
 Ser Gly Arg Glu Arg Glu Met Asp Ser Ser Ala Ser Ser Leu Arg Thr  
 705 710 715 720  
 Gln Pro Asn Pro Gln Lys Leu Trp Glu Asp Ile Pro Glu Leu Pro Pro  
 725 730 735  
 Ile His Ser Ser Leu Ala Pro Pro Ser Gly His Met Leu Gly Asn Glu  
 740 745 750  
 Asn Lys Thr Glu Thr Asp Asp Asn Gln Phe Thr Lys Ser His Ser Arg  
 755 760 765  
 Leu Ser Ser Gln Ile Gln Val Val Gly Asn Val Gly Arg Leu His Gly  
 770 775 780  
 Val Thr Pro Val Lys Leu Cys Arg Lys Glu Leu Arg Gln Ile Ser Ala  
 785 790 795 800  
 Leu Glu Leu Ser Leu Arg Arg Ser Ser Leu Gly Val Gly Ile Gly Ser  
 805 810 815  
 Met Ala Ala Asp Ser Ile Glu Val Ser Arg Lys Pro Arg Asp Leu Lys  
 820 825 830  
 Thr

&lt;210&gt; 4235

&lt;211&gt; 971

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4235

ngacagcgag cgggggcgac ttgccataa agttaggctc caacagctgc tgttgccacc  
 60  
 accactagtt caagcaccat gcagtttacc tcaatatcaa attctttgac ctccactgct  
 120  
 gctattgggc tctcatttac aacttcaacg actaccaccg ccactttcac caccaacact  
 180  
 actaccacaa tcaccagtgg ctttactgtg aacaaaaacc aactgttacc aagagggttt  
 240  
 gaaaaccttg taccttatac ttcaactgtt agtgtagtag caactcctgt gatgacatat  
 300  
 ggatcatctgg agggctctat aaatgagtgg aaccttgagc tggaagatca agagaagtac  
 360  
 tttcttctcc aggcactca ggtcaatgct tgggaccata cattgattga gaatgggtgag  
 420  
 atgattcgta ttttacctg agaagtgaac aaagtgaac tggatcagaa aagattggaa  
 480  
 caagaattgg attttacct gtcacagcag caggaactag aatttctgtt gacttattta  
 540  
 gaggagtcta cgcgtgacca gactggactt cattatctgc aggatgcaga tgaggagcat  
 600  
 gtggagatct ccaccagatc tgcagaattc tgaatgccca tatggactcc ctgcagtggg  
 660

ttgatcggaa-ttcaggcatg ctgcgaagga aggtagaagt ggtaacacgg gttttcgagg  
 720  
 attatcgtca cgaggagcat gcacacaatg tcaacactgc tttttagtga atgaccatat  
 780  
 cttcagcatg tcgtttctgg attattacct acaaattctg atgttaaata gagtagtatt  
 840  
 tatacttaat atttcatctt gatcataatg aattgtgcat cctttttttc atttaagtat  
 900  
 tgtactgttg agaattatac cttagttttg tttttagtat tagaaaatca aaattatact  
 960  
 agccctttg t  
 971

<210> 4236

<211> 198

<212> PRT

<213> Homo sapiens

<400> 4236

Ala	Pro	Thr	Ala	Ala	Val	Ala	Thr	Thr	Thr	Ser	Ser	Ser	Thr	Met	Gln
1				5					10					15	
Phe	Thr	Ser	Ile	Ser	Asn	Ser	Leu	Thr	Ser	Thr	Ala	Ala	Ile	Gly	Leu
			20					25					30		
Ser	Phe	Thr	Thr	Ser	Thr	Thr	Thr	Thr	Ala	Thr	Phe	Thr	Thr	Asn	Thr
		35					40					45			
Thr	Thr	Thr	Ile	Thr	Ser	Gly	Phe	Thr	Val	Asn	Gln	Asn	Gln	Leu	Leu
		50				55				60					
Ser	Arg	Gly	Phe	Glu	Asn	Leu	Val	Pro	Tyr	Thr	Ser	Thr	Val	Ser	Val
65					70					75				80	
Val	Ala	Thr	Pro	Val	Met	Thr	Tyr	Gly	His	Leu	Glu	Gly	Leu	Ile	Asn
				85					90					95	
Glu	Trp	Asn	Leu	Glu	Leu	Glu	Asp	Gln	Glu	Lys	Tyr	Phe	Leu	Leu	Gln
		100						105					110		
Ala	Thr	Gln	Val	Asn	Ala	Trp	Asp	His	Thr	Leu	Ile	Glu	Asn	Gly	Glu
		115					120					125			
Met	Ile	Arg	Ile	Leu	His	Gly	Glu	Val	Asn	Lys	Val	Lys	Leu	Asp	Gln
		130				135					140				
Lys	Arg	Leu	Glu	Gln	Glu	Leu	Asp	Phe	Ile	Leu	Ser	Gln	Gln	Gln	Glu
145				150						155				160	
Leu	Glu	Phe	Leu	Leu	Thr	Tyr	Leu	Glu	Glu	Ser	Thr	Arg	Asp	Gln	Ser
			165					170					175		
Gly	Leu	His	Tyr	Leu	Gln	Asp	Ala	Asp	Glu	Glu	His	Val	Glu	Ile	Ser
		180						185					190		
Thr	Arg	Ser	Ala	Glu	Phe										
				195											

<210> 4237

<211> 560

<212> DNA

<213> Homo sapiens

<400> 4237

cccaggtggc aggtctgctgg tggctccctgt ccatgctgtc gacacgcctc acgtgctgc  
 60

tgatggtggc cacaccagcc ctgatgggag tgggcaccct gatgggctca ggcctccgaa  
 120  
 aattgtctcg ccagtgtcag gagcaggtac cggcattcct ggccatcctc ttcaccctcc  
 180  
 ccacaccggt tctctttcca ctccccggaa ctctccctg tccccatcct ggactccttg  
 240  
 tcctgttttt tggactcctt gtctgttttc ctggactcct tgcagatcgc cagggcaatg  
 300  
 ggcgtagcag acgaggccct gggcaatgtg cggactgtgc gtgccttcgc catggagcaa  
 360  
 cgggaagagg agcgctatgg ggcagagctg gaagcctgcc gctgccgagc agaggagctg  
 420  
 ggccgcggca tcgccttggt ccaagggctt tccaacatcg cttcaactg tgagtgaacc  
 480  
 atttgggggc tggaggggag cttgtgggct ggggaggagc tgggagcagc caaggcaggc  
 540  
 aaggccctcc cttcacgcgt  
 560

&lt;210&gt; 4238

&lt;211&gt; 124

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4238

Trp	Ala	Gln	Ala	Ser	Glu	Asn	Cys	Leu	Ala	Ser	Val	Arg	Ser	Arg	Tyr
1				5					10					15	
Arg	His	Ser	Trp	Pro	Ser	Ser	Ser	Pro	Ser	Pro	His	Arg	Phe	Ser	Phe
			20					25					30		
His	Ser	Pro	Glu	Leu	Leu	Pro	Val	Pro	Ile	Leu	Asp	Ser	Leu	Ser	Cys
		35					40				45				
Phe	Leu	Asp	Ser	Leu	Ser	Cys	Phe	Leu	Asp	Ser	Leu	Gln	Ile	Ala	Arg
		50				55					60				
Ala	Met	Gly	Val	Ala	Asp	Glu	Ala	Leu	Gly	Asn	Val	Arg	Thr	Val	Arg
65					70					75				80	
Ala	Phe	Ala	Met	Glu	Gln	Arg	Glu	Glu	Glu	Arg	Tyr	Gly	Ala	Glu	Leu
				85					90					95	
Glu	Ala	Cys	Arg	Cys	Arg	Ala	Glu	Glu	Leu	Gly	Arg	Gly	Ile	Ala	Leu
			100						105					110	
Phe	Gln	Gly	Leu	Ser	Asn	Ile	Ala	Phe	Asn	Cys	Glu				
			115				120								

&lt;210&gt; 4239

&lt;211&gt; 3127

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4239

nngaaagggg aaggggagtt gggagaggca cctcaacttt gatgtcccga gccttgagtg  
 60  
 gccactcgca agctggccaa gggcttcaca caatttgcca agatgacaga ggggaccaag  
 120  
 aagaccagca aaaagttaa gttcttcaag ttcaagggtt ttgggagtct ctccaacctc  
 180

cctcggtcct tcactctgag acgatcctca gcttccatca gtaggcagtc ccatttggag  
240  
cctgacacct ttgaagccac gcaggatgac atggtgacgg tgcccaagag tccccagcc  
300  
tatgcccgtt ccagtgcacat gtacagccac atgggcacca tgccctgccc cagcatcaag  
360  
aaagcacaga actcacaggc tgcccgagcag gccaggagg cggttcccaa gcccaacttg  
420  
gtacccggag gtgtaccga cccccaggc ttggaggcag ccaaagaggt gatggtgaag  
480  
gccactggcc ctctagagga cccccagca atggaacca acccttcagc agtggaggta  
540  
gaccccatca gaaagcctga ggtcccaca ggagacgtag aagaggagag acctcccagg  
600  
gacgtgcact cagaaagggc tgctggagag ccagaggctg gcagcgacta tgtgaagttc  
660  
tccaaggaga agtacatcct ggactcatcg ccagagaaac tccacaagga attggaggag  
720  
gagctcaaac tcagcagcac ggatctccgc agccatgcct ggtaccatgg ccgcatcccc  
780  
cgagaggtct cggagacctt ggtacaacgc aacggcgact tcctcatccg ggactcactc  
840  
accagcctgg gcgactatgt gctcacgtgc cgctggcgca accaggcctt gcacttcaag  
900  
atcaacaagg tgggtggtgaa ggcaggcgag agctacacac acatccagta cctgtttgag  
960  
caggagagct ttgaccacgt gcccgccttc gtgcgctatc atgtgggcag ccgcaaggct  
1020  
gtgtcagagc agagtgggtgc catcatctac tgcccgtga accgcacctt cccactgcgc  
1080  
tacctcgaag ccagctatgg cctgggacag gggagtagca agcctgctag ccccgtcagc  
1140  
ccctcaggcc ccaagggcag ccacatgaag cggcgagcgc tcaccatgac cgatgggctc  
1200  
actgctgaca aggtcacccg cagcgatggc tgccccacca gtacgtcgct gcccgcctc  
1260  
cgggactcca tccgcagctg tgccctcagc atggaccaga tcccagacct gcactcacc  
1320  
atgtcgccca tctccgagag ccctagctcc cctgcctaca gcactgtaac ccgtgtccat  
1380  
gccgcccctg cagccccttc tgccacagca ttgcctgcct cccctgtcgc ccgctgttcc  
1440  
agtgageccc agctgtgtcc cggaagtgcc ccaaagaccc atggggagtc agacaagggc  
1500  
ccccacacca gcccctcca cacccttggc aaggcctccc cgtcaccatc actcagcagc  
1560  
tacagtgacc cggactctgg ccactactgc cagctccagc ctcccgtgcg tggcagccga  
1620  
gagtgggcag cgactgagac ctccagccag caggccagga gctatgggga gaggctaaag  
1680  
gaactgtcag aaaatggggc cctgaaggg gactggggca agaccttcac agtccccatc  
1740  
gtggaagtca cttcttccct caaccggcc accttcagt cactactgat cccagggat  
1800

aaccggccac tggaggtggg ccttctgcgc aaggtcaagg agctgctggc agaagtggat  
1860  
gcccggacgc tggcccgga tgtaccaag gtggactgcc tggttgctag gatactgggc  
1920  
gttaccaagg agatgcagac cctaattggga gtccgctggg gcatggaact gctcaccctc  
1980  
ccccatggcc ggcagctacg cctagacctg ctggaaagg tccacaccat gtccatcatg  
2040  
ctggccgtgg acatcctggg ctgcaccggc tctgcggagg agcgggcagc gctgctgcac  
2100  
aagaccattc agctggcggc cgagctacgg gggactatgg gcaacatgtt cagcttcggc  
2160  
gcggtcatgg gtgccctgga catggctcag atttctcggc tggagcagac atgggtgacc  
2220  
ctgcggcagc gacacacaga gggtgccatc ctgtacgaga agaagctcaa gccttttctc  
2280  
aagagcctca acgagggcaa agaaggcccg ccgctgagca acaccacgtt tctcatgtg  
2340  
ctgcccctca tcacctgct ggagtgtgac tcggcccccac cagaggggcc tgagccctgg  
2400  
ggcagcacgg agcacggcgt ggaggtggtg ctggctcacc tggaggccgc ccgcacagtg  
2460  
gcacaccacg gaggcctgta ccacaccaat gctgaagtca agctgcaggg gttccaggcc  
2520  
cggccggagc tcctggaggt gttcagcacg gagttccaga tgcgccttct ctggggcagt  
2580  
cagggtgcca gcagcagcca ggcccggcgc tatgagaagt tcgacaagg cctcactgcc  
2640  
ctgtcccaca agctggaacc tgctgtccgc tccagcgagc tgtgaccca gggacatttc  
2700  
ccctctgcag ctgcggacag cgtcaggggc agaggggcac acaactttcc ccagagcacc  
2760  
ccaaggacac tgtgatcaac ccgagaatgt tctgggttca actcaagcat ctcccttgca  
2820  
cctccagggt cctgcgtgga ctctgggttc catccacct gctacatgct caccaggctc  
2880  
ccattgagga agaacaggaa cgccggttcc cccaccagct tttgtgctc cccttctgc  
2940  
tggggttccc tgttttcgag ccattggagg caggctgctc acgcctctc actctctgtc  
3000  
tgtccctcac caacaccaag gcctccatct cactgtaaat aagtctctgt tctgtaaata  
3060  
gatgtacaga agccatgtta tttctttcat ataataaact tttatgactc tttaaaaaaa  
3120  
aaaaaaa  
3127

&lt;210&gt; 4240

&lt;211&gt; 860

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4240

Met Thr Glu Gly Thr Lys Lys Thr Ser Lys Lys Phe Lys Phe Phe Lys

```

1           5           10           15
Phe Lys Gly Phe Gly Ser Leu Ser Asn Leu Pro Arg Ser Phe Thr Leu
20           25           30
Arg Arg Ser Ser Ala Ser Ile Ser Arg Gln Ser His Leu Glu Pro Asp
35           40           45
Thr Phe Glu Ala Thr Gln Asp Asp Met Val Thr Val Pro Lys Ser Pro
50           55           60
Pro Ala Tyr Ala Arg Ser Ser Asp Met Tyr Ser His Met Gly Thr Met
65           70           75           80
Pro Arg Pro Ser Ile Lys Lys Ala Gln Asn Ser Gln Ala Ala Arg Gln
85           90           95
Ala Gln Glu Ala Gly Pro Lys Pro Asn Leu Val Pro Gly Gly Val Pro
100          105          110
Asp Pro Pro Gly Leu Glu Ala Ala Lys Glu Val Met Val Lys Ala Thr
115          120          125
Gly Pro Leu Glu Asp Thr Pro Ala Met Glu Pro Asn Pro Ser Ala Val
130          135          140
Glu Val Asp Pro Ile Arg Lys Pro Glu Val Pro Thr Gly Asp Val Glu
145          150          155          160
Glu Glu Arg Pro Pro Arg Asp Val His Ser Glu Arg Ala Ala Gly Glu
165          170          175
Pro Glu Ala Gly Ser Asp Tyr Val Lys Phe Ser Lys Glu Lys Tyr Ile
180          185          190
Leu Asp Ser Ser Pro Glu Lys Leu His Lys Glu Leu Glu Glu Glu Leu
195          200          205
Lys Leu Ser Ser Thr Asp Leu Arg Ser His Ala Trp Tyr His Gly Arg
210          215          220
Ile Pro Arg Glu Val Ser Glu Thr Leu Val Gln Arg Asn Gly Asp Phe
225          230          235          240
Leu Ile Arg Asp Ser Leu Thr Ser Leu Gly Asp Tyr Val Leu Thr Cys
245          250          255
Arg Trp Arg Asn Gln Ala Leu His Phe Lys Ile Asn Lys Val Val Val
260          265          270
Lys Ala Gly Glu Ser Tyr Thr His Ile Gln Tyr Leu Phe Glu Gln Glu
275          280          285
Ser Phe Asp His Val Pro Ala Leu Val Arg Tyr His Val Gly Ser Arg
290          295          300
Lys Ala Val Ser Glu Gln Ser Gly Ala Ile Ile Tyr Cys Pro Val Asn
305          310          315          320
Arg Thr Phe Pro Leu Arg Tyr Leu Glu Ala Ser Tyr Gly Leu Gly Gln
325          330          335
Gly Ser Ser Lys Pro Ala Ser Pro Val Ser Pro Ser Gly Pro Lys Gly
340          345          350
Ser His Met Lys Arg Arg Ser Val Thr Met Thr Asp Gly Leu Thr Ala
355          360          365
Asp Lys Val Thr Arg Ser Asp Gly Cys Pro Thr Ser Thr Ser Leu Pro
370          375          380
Arg Pro Arg Asp Ser Ile Arg Ser Cys Ala Leu Ser Met Asp Gln Ile
385          390          395          400
Pro Asp Leu His Ser Pro Met Ser Pro Ile Ser Glu Ser Pro Ser Ser
405          410          415
Pro Ala Tyr Ser Thr Val Thr Arg Val His Ala Ala Pro Ala Ala Pro
420          425          430
Ser Ala Thr Ala Leu Pro Ala Ser Pro Val Ala Arg Cys Ser Ser Glu

```



435	440	445
Pro Gln Leu Cys	Pro Gly Ser Ala Pro Lys Thr	His Gly Glu Ser Asp
450	455	460
Lys Gly Pro His Thr Ser	Pro Ser His Thr Leu Gly	Lys Ala Ser Pro
465	470	475
Ser Pro Ser Leu Ser Ser Tyr Ser Asp	Pro Asp Ser Gly His Tyr Cys	480
485	490	495
Gln Leu Gln Pro Pro Val Arg Gly Ser Arg Glu Trp	Ala Ala Thr Glu	
500	505	510
Thr Ser Ser Gln Gln Ala Arg Ser Tyr Gly Glu Arg	Leu Lys Glu Leu	
515	520	525
Ser Glu Asn Gly Ala Pro Glu Gly Asp Trp Gly	Lys Thr Phe Thr Val	
530	535	540
Pro Ile Val Glu Val Thr Ser Ser Phe Asn Pro Ala Thr Phe Gln Ser	545	550
545	550	555
Leu Leu Ile Pro Arg Asp Asn Arg Pro Leu Glu Val Gly Leu Leu Arg	560	565
565	570	575
Lys Val Lys Glu Leu Leu Ala Glu Val Asp Ala Arg Thr Leu Ala Arg	580	585
580	585	590
His Val Thr Lys Val Asp Cys Leu Val Ala Arg Ile Leu Gly Val Thr	595	600
595	600	605
Lys Glu Met Gln Thr Leu Met Gly Val Arg Trp Gly Met Glu Leu Leu	610	615
610	615	620
Thr Leu Pro His Gly Arg Gln Leu Arg Leu Asp Leu Leu Glu Arg Phe	625	630
625	630	635
His Thr Met Ser Ile Met Leu Ala Val Asp Ile Leu Gly Cys Thr Gly	645	650
645	650	655
Ser Ala Glu Glu Arg Ala Ala Leu Leu His Lys Thr Ile Gln Leu Ala	660	665
660	665	670
Ala Glu Leu Arg Gly Thr Met Gly Asn Met Phe Ser Phe Ala Ala Val	675	680
675	680	685
Met Gly Ala Leu Asp Met Ala Gln Ile Ser Arg Leu Glu Gln Thr Trp	690	695
690	695	700
Val Thr Leu Arg Gln Arg His Thr Glu Gly Ala Ile Leu Tyr Glu Lys	705	710
705	710	715
Lys Leu Lys Pro Phe Leu Lys Ser Leu Asn Glu Gly Lys Glu Gly Pro	725	730
725	730	735
Pro Leu Ser Asn Thr Thr Phe Pro His Val Leu Pro Leu Ile Thr Leu	740	745
740	745	750
Leu Glu Cys Asp Ser Ala Pro Pro Glu Gly Pro Glu Pro Trp Gly Ser	755	760
755	760	765
Thr Glu His Gly Val Glu Val Leu Ala His Leu Glu Ala Ala Arg	770	775
770	775	780
Thr Val Ala His His Gly Gly Leu Tyr His Thr Asn Ala Glu Val Lys	785	790
785	790	795
Leu Gln Gly Phe Gln Ala Arg Pro Glu Leu Leu Glu Val Phe Ser Thr	805	810
805	810	815
Glu Phe Gln Met Arg Leu Leu Trp Gly Ser Gln Gly Ala Ser Ser Ser	820	825
820	825	830
Gln Ala Arg Arg Tyr Glu Lys Phe Asp Lys Val Leu Thr Ala Leu Ser	835	840
835	840	845
His Lys Leu Glu Pro Ala Val Arg Ser Ser Glu Leu	850	855
850	855	860

<210> 4241  
 <211> 479  
 <212> DNA  
 <213> Homo sapiens

<400> 4241  
 nacgcgtttt ctgaaaggag cttcctggca ctcaccagcc gcttcctggt tggactcctg  
 60  
 aacgaggaga ccaggagcca cctggagaag agtctctgct ggaaggtctc gccgcacatc  
 120  
 aagatggacc tggtgcagtg gatccaaagc aaaactcaga gcgacggctc caccctgcag  
 180  
 cagggtcctt tggagttctt cagctgcttg tacgagatcc aggaggagga gtttatccag  
 240  
 caggccctga gccacttcca ggtgatcgtg gtcagcaaca ttgcctcaa gatggagcac  
 300  
 atggtctcct cgttctgtct gaagcgtgc aggagcgccc aggtgctgca cttgtatggc  
 360  
 gccacctaca gcgcggacgg ggaagaccgc gcgaggtgtc cgcaggagcg cacacgctgt  
 420  
 tgggtcagct accagagagg cccgttctgc tggacgcta cagtgaacat ctggcagcg  
 479

<210> 4242  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 4242  
 Xaa Ala Phe Ser Glu Arg Ser Phe Leu Ala Leu Thr Ser Arg Phe Leu  
 1 5 10 15  
 Phe Gly Leu Leu Asn Glu Glu Thr Arg Ser His Leu Glu Lys Ser Leu  
 20 25 30  
 Cys Trp Lys Val Ser Pro His Ile Lys Met Asp Leu Leu Gln Trp Ile  
 35 40 45  
 Gln Ser Lys Thr Gln Ser Asp Gly Ser Thr Leu Gln Gln Gly Ser Leu  
 50 55 60  
 Glu Phe Phe Ser Cys Leu Tyr Glu Ile Gln Glu Glu Glu Phe Ile Gln  
 65 70 75 80  
 Gln Ala Leu Ser His Phe Gln Val Ile Val Val Ser Asn Ile Ala Ser  
 85 90 95  
 Lys Met Glu His Met Val Ser Ser Phe Cys Leu Lys Arg Cys Arg Ser  
 100 105 110  
 Ala Gln Val Leu His Leu Tyr Gly Ala Thr Tyr Ser Ala Asp Gly Glu  
 115 120 125  
 Asp Arg Ala Arg Cys Pro Gln Glu Arg Thr Arg Cys Trp Cys Ser Tyr  
 130 135 140  
 Gln Arg Gly Pro Phe Cys Trp Thr Pro Thr Val Asn Ile Trp Gln  
 145 150 155

<210> 4243  
 <211> 3159  
 <212> DNA  
 <213> Homo sapiens

<400> 4243  
ngccgcaacc cgtcccggag gtgtcctgtc tctgtcgcc gccgccgcg ccaccaccgc  
60  
tgccactgcc gccctgccgg ggccatgttc gctctgggct tgcccttctt ggtgctcttg  
120  
gtggcctcgg tcgagagcca tctgggggtt ctggggccca agaacgtctc gcagaaagac  
180  
gccgagtttg agcgcaccta cgtggacgag gtcaacagcg agctggtaa catctacacc  
240  
ttcaaccata ctgtgacccg caacaggaca gagggcgtgc gtgtgtctgt gaacgtcctg  
300  
aacaagcaga agggggcgcc gttgctgttt gtggtccgcc agaaggaggc tgtggtgtcc  
360  
ttccaggtgc ccctaatect gcgagggatg ttccagcgca agtacctcta ccaaaaagtg  
420  
gaacgaaccc tgtgtcagcc cccaccaag aatgagtcgg agattcagtt cttctacgtg  
480  
gatgtgtcca cctgtcacc agtcaacacc acataccagc tccgggtcag ccgcatggac  
540  
gattttgtgc tcaggactgg ggagcagttc agcttcaata ccacagcagc acagccccag  
600  
tacttcaagt atgagttccc tgaaggcgtg gactcggtta ttgtcaaggc gacctcaac  
660  
aaggccttcc cctgtcagc catctccatt caggatgtgc tgtgtcctgt ctatgacctg  
720  
gacaacaacg tagccttcat cgcatgtac cagacgatga ccaagaaggc ggccatcacc  
780  
gtacagcgca aagacttccc cagcaacagc ttttatgtgg tgggtgggtg gaagaccgaa  
840  
gaccaagcct gcgggggctc cctgccttcc tacccttcg cagaagatga accggtcag  
900  
caagggcacc gccagaaaac cctgtcagtg ctggtgtctc aagcagtcac gtctgaggca  
960  
tacgtcagtg ggtgctctt ttgcctgggt atatttctct ctttttacct gctgaccgtc  
1020  
ctcctggcct gctgggagaa ctggaggcag aagaagaaga cctgtctggt ggccattgac  
1080  
cgagcctgcc cagaaagcgc ttctctcctt ggtcacctc gagtcctggc tgattctttt  
1140  
cctggcagtt ccccttatga gggttacaac tatggctcct ttgagaatgt ttctggatct  
1200  
accgatggtc tggttgacag cgctggcact ggggacctct cttacgggta ccaggggcac  
1260  
gaccagttca agcggcgcc cccctctggc cagatgcggc agctgtgcat tgccatgggc  
1320  
cgctcctttg aacctgtagg tactcggccc cgagtggact ccatgagctc tgtggaggag  
1380  
gatgactacg acacattgac cgacatcgat tccgacaaga atgtcattcg caccaagcaa  
1440  
tacctctatg tggctgacct ggcacggaag gacaagcgtg ttctgcggaa aaagtaccag  
1500  
atctacttct ggaacattgc caccattgct gtcttctatg cccttctgt ggtgcagctg  
1560

gtgatcacct accagacggt ggtgaatgtc acaggggaatc aggacatctg ctactacaac  
1620  
ttcctctgcg cccaccact gggcaatctc agcgcttca acaacatcct cagcaacctg  
1680  
gggtacatcc tgctggggct gcttttctg ctcatcatcc tgcaacggga gatcaaccac  
1740  
aaccgggccc tgctgcgcaa tgacctctgt gccctggaat gtgggatccc caaacacttt  
1800  
gggcttttct acgccatggg cacagccctg atgatggagg ggctgctcag tgcttgctat  
1860  
catgtgtgcc ccaactatac caatttccag ttgacacat cgttcatgta catgatcgcc  
1920  
ggactctgca tgctgaagct ctaccagaag cggcaccggg acatcaacgc cagcgctac  
1980  
agtgcctacg cctgcctggc cattgtcatc ttcttctctg tgctgggctg ggtctttggc  
2040  
aaagggaaca cggcgttctg gatcgctctc tccatcatc acatcatcgc caccctgctc  
2100  
ctcagcacgc agctctatta catgggcccg tggaactgg actcggggat ctccgcgcg  
2160  
atcctccacg tgctctacac agactgcac cggcagtgc gcgggcccgt ctacgtggac  
2220  
cgcatgggct tgctggctcat gggcaacgtc atcaactggg cgctggctgc ctatgggctt  
2280  
atcatgggcc ccaatgattt cgcttctac ttgttgcca ttggcatctg caacctgctc  
2340  
ctttacttcg ccttctacat catcatgaag ctccggagtg gggagaggat caagctcatc  
2400  
ccctgctct gcacgtttg caccctcgtg gtctggggct tgcgctctt cttcttctc  
2460  
cagggactca gcacctggca gaaaaccct gcagagtcga gggagcaca cggggactgc  
2520  
atcctcctcg acttcttga cgaccacgac atctggcact tcctctctc catcgccatg  
2580  
ttcgggtcct tcctggtaag cgggcctccc ggcgcagcgt tgaggataac gtgaaaggta  
2640  
gcagctgct ccttctctgt gagctgatct ggcgtccaca ccccagggtg tagctgacac  
2700  
tgatgacga cctggatact tagaaagggg cttcaggaag ggatgtgctg tttccctcta  
2760  
cgtgcccagt cctagcctcg ctctaggacc cagggtggc ttctaagttt ccgtccagtc  
2820  
ttcaggcaag ttctgtgta gtcatgcaca cacataccta tgaaacctg aagtttaca  
2880  
agaattgccc cagctctggg caccctggc accctggctc ttggatccc ttcgtccac  
2940  
ctggccacc ccagatgctg aggatggggg agctcaggcg gggcctctgc tttggggatg  
3000  
ggaatgtgt tttctccaa acttgtttt atagctctgc ttgaagggt gggagatgag  
3060  
gtgggtctg atctttctc agagcgtct catgctatgg ttgcatttcc gttttctatg  
3120  
aatgaattg catacaataa ccaaccagac tcagtaaaa  
3159

<210> 4244  
 <211> 849  
 <212> PRT  
 <213> Homo sapiens

<400> 4244  
 Met Phe Ala Leu Gly Leu Pro Phe Leu Val Leu Leu Val Ala Ser Val  
 1 5 10 15  
 Glu Ser His Leu Gly Val Leu Gly Pro Lys Asn Val Ser Gln Lys Asp  
 20 25 30  
 Ala Glu Phe Glu Arg Thr Tyr Val Asp Glu Val Asn Ser Glu Leu Val  
 35 40 45  
 Asn Ile Tyr Thr Phe Asn His Thr Val Thr Arg Asn Arg Thr Glu Gly  
 50 55 60  
 Val Arg Val Ser Val Asn Val Leu Asn Lys Gln Lys Gly Ala Pro Leu  
 65 70 75 80  
 Leu Phe Val Val Arg Gln Lys Glu Ala Val Val Ser Phe Gln Val Pro  
 85 90 95  
 Leu Ile Leu Arg Gly Met Phe Gln Arg Lys Tyr Leu Tyr Gln Lys Val  
 100 105 110  
 Glu Arg Thr Leu Cys Gln Pro Pro Thr Lys Asn Glu Ser Glu Ile Gln  
 115 120 125  
 Phe Phe Tyr Val Asp Val Ser Thr Leu Ser Pro Val Asn Thr Thr Tyr  
 130 135 140  
 Gln Leu Arg Val Ser Arg Met Asp Asp Phe Val Leu Arg Thr Gly Glu  
 145 150 155 160  
 Gln Phe Ser Phe Asn Thr Thr Ala Ala Gln Pro Gln Tyr Phe Lys Tyr  
 165 170 175  
 Glu Phe Pro Glu Gly Val Asp Ser Val Ile Val Lys Val Thr Ser Asn  
 180 185 190  
 Lys Ala Phe Pro Cys Ser Val Ile Ser Ile Gln Asp Val Leu Cys Pro  
 195 200 205  
 Val Tyr Asp Leu Asp Asn Asn Val Ala Phe Ile Gly Met Tyr Gln Thr  
 210 215 220  
 Met Thr Lys Lys Ala Ala Ile Thr Val Gln Arg Lys Asp Phe Pro Ser  
 225 230 235 240  
 Asn Ser Phe Tyr Val Val Val Val Val Lys Thr Glu Asp Gln Ala Cys  
 245 250 255  
 Gly Gly Ser Leu Pro Phe Tyr Pro Phe Ala Glu Asp Glu Pro Val Asp  
 260 265 270  
 Gln Gly His Arg Gln Lys Thr Leu Ser Val Leu Val Ser Gln Ala Val  
 275 280 285  
 Thr Ser Glu Ala Tyr Val Ser Gly Met Leu Phe Cys Leu Gly Ile Phe  
 290 295 300  
 Leu Ser Phe Tyr Leu Leu Thr Val Leu Leu Ala Cys Trp Glu Asn Trp  
 305 310 315 320  
 Arg Gln Lys Lys Lys Thr Leu Leu Val Ala Ile Asp Arg Ala Cys Pro  
 325 330 335  
 Glu Ser Ala Ser Leu Leu Gly His Pro Arg Val Leu Ala Asp Ser Phe  
 340 345 350  
 Pro Gly Ser Ser Pro Tyr Glu Gly Tyr Asn Tyr Gly Ser Phe Glu Asn  
 355 360 365  
 Val Ser Gly Ser Thr Asp Gly Leu Val Asp Ser Ala Gly Thr Gly Asp

370 375 380  
 Leu Ser Tyr Gly Tyr Gln Gly His Asp Gln Phe Lys Arg Arg Leu Pro  
 385 390 395 400  
 Ser Gly Gln Met Arg Gln Leu Cys Ile Ala Met Gly Arg Ser Phe Glu  
 405 410 415  
 Pro Val Gly Thr Arg Pro Arg Val Asp Ser Met Ser Ser Val Glu Glu  
 420 425 430  
 Asp Asp Tyr Asp Thr Leu Thr Asp Ile Asp Ser Asp Lys Asn Val Ile  
 435 440 445  
 Arg Thr Lys Gln Tyr Leu Tyr Val Ala Asp Leu Ala Arg Lys Asp Lys  
 450 455 460  
 Arg Val Leu Arg Lys Lys Tyr Gln Ile Tyr Phe Trp Asn Ile Ala Thr  
 465 470 475 480  
 Ile Ala Val Phe Tyr Ala Leu Pro Val Val Gln Leu Val Ile Thr Tyr  
 485 490 495  
 Gln Thr Val Val Asn Val Thr Gly Asn Gln Asp Ile Cys Tyr Tyr Asn  
 500 505 510  
 Phe Leu Cys Ala His Pro Leu Gly Asn Leu Ser Ala Phe Asn Asn Ile  
 515 520 525  
 Leu Ser Asn Leu Gly Tyr Ile Leu Leu Gly Leu Leu Phe Leu Leu Ile  
 530 535 540  
 Ile Leu Gln Arg Glu Ile Asn His Asn Arg Ala Leu Leu Arg Asn Asp  
 545 550 555 560  
 Leu Cys Ala Leu Glu Cys Gly Ile Pro Lys His Phe Gly Leu Phe Tyr  
 565 570 575  
 Ala Met Gly Thr Ala Leu Met Met Glu Gly Leu Leu Ser Ala Cys Tyr  
 580 585 590  
 His Val Cys Pro Asn Tyr Thr Asn Phe Gln Phe Asp Thr Ser Phe Met  
 595 600 605  
 Tyr Met Ile Ala Gly Leu Cys Met Leu Lys Leu Tyr Gln Lys Arg His  
 610 615 620  
 Pro Asp Ile Asn Ala Ser Ala Tyr Ser Ala Tyr Ala Cys Leu Ala Ile  
 625 630 635 640  
 Val Ile Phe Phe Ser Val Leu Gly Val Val Phe Gly Lys Gly Asn Thr  
 645 650 655  
 Ala Phe Trp Ile Val Phe Ser Ile Ile His Ile Ile Ala Thr Leu Leu  
 660 665 670  
 Leu Ser Thr Gln Leu Tyr Tyr Met Gly Arg Trp Lys Leu Asp Ser Gly  
 675 680 685  
 Ile Phe Arg Arg Ile Leu His Val Leu Tyr Thr Asp Cys Ile Arg Gln  
 690 695 700  
 Cys Ser Gly Pro Leu Tyr Val Asp Arg Met Val Leu Leu Val Met Gly  
 705 710 715 720  
 Asn Val Ile Asn Trp Ser Leu Ala Ala Tyr Gly Leu Ile Met Arg Pro  
 725 730 735  
 Asn Asp Phe Ala Ser Tyr Leu Leu Ala Ile Gly Ile Cys Asn Leu Leu  
 740 745 750  
 Leu Tyr Phe Ala Phe Tyr Ile Ile Met Lys Leu Arg Ser Gly Glu Arg  
 755 760 765  
 Ile Lys Leu Ile Pro Leu Leu Cys Ile Val Cys Thr Ser Val Val Trp  
 770 775 780  
 Gly Phe Ala Leu Phe Phe Phe Phe Gln Gly Leu Ser Thr Trp Gln Lys  
 785 790 795 800  
 Thr Pro Ala Glu Ser Arg Glu His Asn Arg Asp Cys Ile Leu Leu Asp

			805					810				815			
Phe	Phe	Asp	Asp	His	Asp	Ile	Trp	His	Phe	Leu	Ser	Ser	Ile	Ala	Met
			820					825				830			
Phe	Gly	Ser	Phe	Leu	Val	Ser	Gly	Pro	Pro	Gly	Ala	Ala	Leu	Arg	Ile
			835					840				845			
Thr															

&lt;210&gt; 4245

&lt;211&gt; 909

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4245

```

ngggcccaga gcctccaaga ggctgcacac caggagctca acaccctcaa gttccagctg
60
agtgctgaaa tcatggacta ccagagcaga cttagaatg ctggtgaaga gtgcaagagc
120
ctcagggggc agcttgagga gcaaggccgg cagctgcagg ctgctgagga agctgtggag
180
aagctgaagg ccaccaagc agacatggga gagaagctga gctgcactag caaccatctt
240
gcagagtgcc aggcggccat gctgaggaag gacaaggagg gggctgccct gcgtgaagac
300
ctagaaagga cccagaagga actcgaaaaa gccacaacaa aaatccaaga gtattacaac
360
aaactctgcc aggaggtgac aaatcgtgag aggaatgacc agaagatgct tgctgacctg
420
gatgacctca acagaaccaa gaagtatctc gaggagcggc tgatagagct gctcagggac
480
aaggatgctc tctggcagaa gtcagatgcc ctggaattcc agcagaagct cagtgtgag
540
gagagatggc tcggagacac agaggcaaac cactgcctcg actgtaagcg ggagttcagc
600
tggtggtg gcggcacca ctgcaggata tgtggccgca tcttctgtta ctactgctgc
660
aacaactacg tcctgagcaa gcacggtggc aaaaaggagc gctgctgccg agcctgtttc
720
cagaagctca gtgaaggccc tggctccct gatagcagtg gctcaggcac tagccagggg
780
gagctcagcc ctgcactgtc accagcctca cctgggcccc aggccacagg aggccaagga
840
gcaaatacag actacaggcc accggacgac gctgtgtttg atatcatcac agatgaggaa
900
ttgtgccag
909

```

&lt;210&gt; 4246

&lt;211&gt; 303

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4246

Xaa Ala Gln Ser Leu Gln Glu Ala Ala His Gln Glu Leu Asn Thr Leu

1	5	10	15
Lys Phe Gln Leu Ser Ala Glu Ile Met Asp Tyr Gln Ser Arg Leu Lys			
20	25	30	
Asn Ala Gly Glu Glu Cys Lys Ser Leu Arg Gly Gln Leu Glu Glu Gln			
35	40	45	
Gly Arg Gln Leu Gln Ala Ala Glu Glu Ala Val Glu Lys Leu Lys Ala			
50	55	60	
Thr Gln Ala Asp Met Gly Glu Lys Leu Ser Cys Thr Ser Asn His Leu			
65	70	75	80
Ala Glu Cys Gln Ala Ala Met Leu Arg Lys Asp Lys Glu Gly Ala Ala			
85	90	95	
Leu Arg Glu Asp Leu Glu Arg Thr Gln Lys Glu Leu Glu Lys Ala Thr			
100	105	110	
Thr Lys Ile Gln Glu Tyr Tyr Asn Lys Leu Cys Gln Glu Val Thr Asn			
115	120	125	
Arg Glu Arg Asn Asp Gln Lys Met Leu Ala Asp Leu Asp Asp Leu Asn			
130	135	140	
Arg Thr Lys Lys Tyr Leu Glu Glu Arg Leu Ile Glu Leu Leu Arg Asp			
145	150	155	160
Lys Asp Ala Leu Trp Gln Lys Ser Asp Ala Leu Glu Phe Gln Gln Lys			
165	170	175	
Leu Ser Ala Glu Glu Arg Trp Leu Gly Asp Thr Glu Ala Asn His Cys			
180	185	190	
Leu Asp Cys Lys Arg Glu Phe Ser Trp Met Val Arg Arg His His Cys			
195	200	205	
Arg Ile Cys Gly Arg Ile Phe Cys Tyr Tyr Cys Cys Asn Asn Tyr Val			
210	215	220	
Leu Ser Lys His Gly Gly Lys Lys Glu Arg Cys Cys Arg Ala Cys Phe			
225	230	235	240
Gln Lys Leu Ser Glu Gly Pro Gly Ser Pro Asp Ser Ser Gly Ser Gly			
245	250	255	
Thr Ser Gln Gly Glu Leu Ser Pro Ala Leu Ser Pro Ala Ser Pro Gly			
260	265	270	
Pro Gln Ala Thr Gly Gly Gln Gly Ala Asn Thr Asp Tyr Arg Pro Pro			
275	280	285	
Asp Asp Ala Val Phe Asp Ile Ile Thr Asp Glu Glu Leu Cys Gln			
290	295	300	

&lt;210&gt; 4247

&lt;211&gt; 5755

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4247

caccctctgg acaagagaac gggcgagcgg gagctaggag ggaagagtgg agaggaccgg  
60  
cgaggcgcg cagccggagc cacctccttc ccggccgcc cctccccact cccctacac  
120  
acacacgctc gctcgctcgc cggcgcgcg acacccccg cgccggaccc gcacctcggc  
180  
ggcgccaca cactcggcag cccgagccgc ggtagccgca gcgggatgga ggcgcgcg  
240  
acggagcgcc ccgaggcag gccgggggcg ccgcttgctc ggacggggct cctactcttg  
300



tcgacgtggg tcctggcccg cgccgagatc acttgggacg cgacaggcgg tcccggacgc  
360  
ccggcgcccc cggttcgcg gccaccggcg ttgtctccac tctcgcccg ggcagtggcc  
420  
agccagtggc cggaggagct ggcgtcggcg cggagagccg ccgtgctggg gcgccgggcc  
480  
ggaccagagc tgctgcccc aagggcggc ggcagaggcg gtgagatgca ggtggaagcc  
540  
ggagggacat caccggcagg cgagcggcgg ggccggggca tcccagctcc tgccaagctt  
600  
ggcgggcgca ggaggagtcg ccggcgcgag cccccaatca cccaggaacg cggggacgc  
660  
tggggccactg ctccggccga tgggtccaga ggaagccgtc cccttgctaa ggggtcccg  
720  
gaggaggtga aggcgcgcg ggctgggggg tcggcggtg aagacctccg gctgccagc  
780  
acctccttcg cgctgaccgg ggactcggcc cacaaccaag ccatggtgca ctggtcggga  
840  
cacaacagca gcgtcactat taccctgacg aagctgtatg acttcaacct gggcagcgtg  
900  
actgagagtt cactatggag gtcgacagat tatggcacca cctatgaaaa gctgaatgac  
960  
aaagtgggtt tgaagactgt cctcagttac ctctatgtca atccaacca caaaaggaag  
1020  
attatgcttc tcagtgatcc tgagatggag agcagcatat tgatcagctc agacgaagg  
1080  
gcgacctatc agaagtatcg gctcaccttc tatatccaga gcctgctctt tcatcccaag  
1140  
caagaggact ggggtgctggc ctacagtttg gatcaaaagc tctacagctc catggacttt  
1200  
ggaagacggg ggcaactcat gcatgaacgc atcacacca acagggttta ttggtcgggtg  
1260  
gccggattgg ataaggaggc ggacctgggtg cacatggagg tgccggaccac ggatggatat  
1320  
gctcactacc tcacctgcag gatccaggaa tgtgccgaga caactagaag tgggcctttt  
1380  
gcccgtcca ttgacatcag ttccctgggt gtccaggatg aatatatctt cattcaggta  
1440  
acaactagtg gaagagccag ctactacgtg tcttatcgaa gagaggcctt tgctcagata  
1500  
aagctgccta agtactcgtt gccaaaggac atgcacatca tcagtacaga cgagaacca  
1560  
gtatttgctg cgggtccaaga atggaaccag aatgacacgt acaacctcta catctcagac  
1620  
acgcgtggga ttacttcac tctggccatg gagaacatca agagcagcag aggtctaagt  
1680  
gggaacatca ttattgaatt gtatgaggta gcaggatat aagggatatt tctggcaaac  
1740  
aagaaggtgg acgaccaggt gaagacatac atcacttaca acaaggcag ggattggcgc  
1800  
ctgctgcaag ctccgatgt ggacctgaga ggaagcccag tgcactgcct gctgcccttc  
1860  
tgttccttac atctgcacct gcaactctct gaaaatccat attcctcagg aagaatctct  
1920

agcaaggaga cagccccagg acttgtggtg gctacaggca acattggccc ggagctctca  
1980  
tatactgata ttggtgtgtt catctcctcc gatgggggca acacatggag acagatcttt  
2040  
gatgaagagt acaatgtctg gttcctagac tggggtggtg ccctcgtggc catgaaacac  
2100  
acacctctgc cagtcaggca tttgtgggtg agttttgatg agggccactc ttgggacaag  
2160  
tatggtttca ctctcggttcc tctctttgtt gacggggctc tgggtggaggc aggaatggag  
2220  
acccacatca tgacagtttt tggccacttc agcctccgct ccgaatggca attggtgaaa  
2280  
gtggactaca aatctatctt cagccggcat tgcaccaagg aggactatca gacctggcac  
2340  
ctgctcaatc agggagagcc ttgtgtcatg ggagaaagga aaatattcaa gaaacgtaag  
2400  
ccaggagctc agtgtgccct gggccgagac cactcaggat cagtggcttc agaaccctgt  
2460  
gtctgtgccca attgggactt cgagtgtgac tatgggtatg agagacatgg ggagagccag  
2520  
tgtgtcccag ctttctggta caatccagca tccccatcaa aggactgcag ccttgggtcaa  
2580  
agctacctta acagcactgg gtatcggcgg atttgtgtcca acaactgcac agatgggcta  
2640  
agggagaagt acaccgccaa ggcccagatg tgccttgga aagcccctcg gggcctccat  
2700  
gtggtgacga ccgatgggcg gctggtggca gagcaggggc acaatgcaac tttcatcatc  
2760  
ctcatggagg aggggtgatct acaaaggaca aacatccagc ttgactttgg ggatgggatt  
2820  
gctgtgtcct acgcaaactt cagccccatc gaggacggca tcaagcacgt gtataagagt  
2880  
gcggggatct tccaggtgac agcctatgca gagaacaacc ttggctcaga cacagctgtc  
2940  
ctcttctctg atgtggtttg tcctgtggag catgttcac tccaggttcc atttgttgcc  
3000  
ataagaaata aggaggtcaa catcagtga gtcgtgtggc ccagtcaact ggggaccctt  
3060  
acctatttct ggtggttcgg caatagcaca aagcctctca tcactttgga cagcagcatt  
3120  
tccttcacat tccttgaga aggaaccgac accatcacag tccaggtggc tgctgggaat  
3180  
gccctcatcc aggacacaaa agagattgca gtccatgaat atttccagtc ccagctttta  
3240  
tcattctctc ctaatctgga ttaccacaat cctgacattc ctgagtggag aaaagatatt  
3300  
ggcaatgtca tcaagcgagc tctgggttaa gtaaccagt tcccagagga ccagatcctc  
3360  
attgccgtgt ttctgtgtc cccacttca gcagagcttt tcattcttcc acccaagaac  
3420  
ctgacagaga ggaggaaagg caatgaagg gacctggaac aaattgtaga aacactgttt  
3480  
aatgtcttca accaaaattt ggtccagttt gagctgaagc cgggggtaca agtcattgtg  
3540

tatgtcacac agctgacgtt agctccattg gtggactcca gtgctgggca cagcagctca  
3600  
gccatgctta tgctattatc agtggatatt gttggcctgg ctgtgttttt gatctacaag  
3660  
tttaaaagga aaatcccttg gattaacatc tatgtctcaag tccaacacga caaggagcag  
3720  
gagatgattg ggtcagtgag ccaaagtga aacgccccca aaatcacact cagtgaacttt  
3780  
acggagcctg aggagctgct ggacaaagag ctggacacgc gggcatagg aggcattgcc  
3840  
actattgcaa acagcgaaag cacaagagag atccccaact gcactagtgt ttaataccag  
3900  
caagccacgt ggtcaaccac ctttctgact ttttatTTTT gatgattact attactatta  
3960  
ttatggaaaa attaaaaatgt cttttttacc ttttgtttac caagggcccc ttcataaata  
4020  
gcaggcaaat gcctagcttt gggagaaaag ggcatcttta gctgattgaa atgagacaaa  
4080  
gggaataaat ggctgtatTT gtgctaagag caaaggatgc atcttccac agcctcctcg  
4140  
ctttactctg ccattggtag cttaaagact ttctttttcc ttgtggtctc ccttttttca  
4200  
aaattgaagt tgggttggt ctttgtgaac ctctcatccc cacagcagaa tcaccaacac  
4260  
tctccgcttc cccagcaca cacacatata acacagatca tttccagtt agatccgcag  
4320  
gaagtaggtt ggtgggggtg gatgtagctg cagaaagcat gcacaacttt gtgaaagagg  
4380  
ccttgccctg tgcatgtcca tagtgaggct acagatggct tattgtatat aattacaatg  
4440  
taaatagctt tttatttcct aagaaataat ttaatgttta gtaaaaaaga aaacagaaaa  
4500  
aagaaagatg cgtgtgttg cttacgcact ggccctcaga gctgaccaac ccgccaggcc  
4560  
tgctcaatgc attgggtttg gatgctctcc tgtgtctgt cactttaac tcttgcactc  
4620  
ccttgtccat gccatagctg gtttctactt atgtatataa aggggggtgg ggggaggggc  
4680  
ttctctgggg caattgataa aggaaggact ctagtacat catagaacat ggcagtcgtt  
4740  
tttgttcaa gaatgatatg aaagggtgaag aagaggccca ctaggaggctt catactgaga  
4800  
cccagatggg ggaaaacagc ttcctctcta aaaggaaaaa cttgatattt atcagtctga  
4860  
gaaaatattt ttttctaaag aaggcagtc gtggatctta aaatgacaat ctgtttttaa  
4920  
attggattct atgaaaatgc ataatgctta tgggaattc tcaggctatt ctgagctcag  
4980  
aaaagtcccc tgggcactag gtaaagccca gtgaatgtct cttggcatgg gaggagttaa  
5040  
agagggttga agggaagagg ctttgttga attatgagtt catgcaaac tctccaggcc  
5100  
aagtaggggt ctagccttta atgatattag tcaaaggcaa ttttagcaaa gctgtgctat  
5160

ttgcttgta gatgtacaca acttccttaa agtcaaagt ctgccttcag ttcccttaag  
 5220  
 gtagttcttg cctctggggg gāgtggcttt caaagccttt tagcttttcc agcacctcag  
 5280  
 ccccttcaca catttacaca taccaatttt tttcaatagg gtcacgttaa gccatgctgt  
 5340  
 aagcattggt tttattttca ggcttagcct gagcacactt atttttgaaa atgatataat  
 5400  
 gtatatatat gggaggaaag gccacatttt gtacctgtta atttttgtgg gatgttggtc  
 5460  
 ccattcttct ttgtgagaca gagagaatgt gatatagaga aatctggctg gctacagtgt  
 5520  
 agatcagtat taggaatatt tctaaagatc ctgctttttt gtttcaaggg ttaaattgggg  
 5580  
 cagacaattg caatacttgt actaaacact ggaatacaaa tgcattgactc atatctatat  
 5640  
 atacagtata tgtacatata ctgttcttgg ttttattggt ccacttgaat atttctactg  
 5700  
 taaaaaaaag acagtgggtt tgaaattggt gaaaataaat gtatttttgt acatc  
 5755

&lt;210&gt; 4248

&lt;211&gt; 1297

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4248

His	Pro	Leu	Asp	Lys	Arg	Thr	Gly	Glu	Arg	Glu	Leu	Gly	Gly	Lys	Ser
1				5					10					15	
Gly	Glu	Asp	Arg	Arg	Gly	Ala	Pro	Ala	Gly	Ala	Thr	Ser	Phe	Pro	Ala
		20						25					30		
Ala	Pro	Ser	Pro	Leu	Pro	Leu	His	Thr	His	Ala	Arg	Ser	Leu	Ala	Gly
		35					40					45			
Ala	Arg	Thr	Pro	Pro	Ala	Pro	Asp	Pro	His	Leu	Gly	Gly	Arg	His	Thr
	50				55					60					
Leu	Gly	Ser	Pro	Ser	Arg	Gly	Ser	Arg	Ser	Gly	Met	Glu	Ala	Ala	Arg
65					70				75					80	
Thr	Glu	Arg	Pro	Ala	Gly	Arg	Pro	Gly	Ala	Pro	Leu	Val	Arg	Thr	Gly
			85						90					95	
Leu	Leu	Leu	Leu	Ser	Thr	Trp	Val	Leu	Ala	Gly	Ala	Glu	Ile	Thr	Trp
			100					105					110		
Asp	Ala	Thr	Gly	Gly	Pro	Gly	Arg	Pro	Ala	Ala	Pro	Ala	Ser	Arg	Pro
		115				120						125			
Pro	Ala	Leu	Ser	Pro	Leu	Ser	Pro	Arg	Ala	Val	Ala	Ser	Gln	Trp	Pro
	130					135					140				
Glu	Glu	Leu	Ala	Ser	Ala	Arg	Arg	Ala	Ala	Val	Leu	Gly	Arg	Arg	Ala
145					150					155				160	
Gly	Pro	Glu	Leu	Leu	Pro	Gln	Gln	Gly	Gly	Arg	Gly	Gly	Glu	Met	
			165					170					175		
Gln	Val	Glu	Ala	Gly	Gly	Thr	Ser	Pro	Ala	Gly	Glu	Arg	Arg	Gly	Arg
		180						185				190			
Gly	Ile	Pro	Ala	Pro	Ala	Lys	Leu	Gly	Gly	Ala	Arg	Arg	Ser	Arg	Arg
	195						200					205			
Ala	Gln	Pro	Pro	Ile	Thr	Gln	Glu	Arg	Gly	Asp	Ala	Trp	Ala	Thr	Ala

210	215	220
Pro Ala Asp Gly Ser Arg	Gly Ser Arg Pro Leu Ala Lys Gly Ser Arg	
225	230	235
Glu Glu Val Lys Ala Pro	Arg Ala Gly Gly Ser Ala Ala Glu Asp Leu	240
245	250	255
Arg Leu Pro Ser Thr Ser	Phe Ala Leu Thr Gly Asp Ser Ala His Asn	
260	265	270
Gln Ala Met Val His Trp	Ser Gly His Asn Ser Ser Val Ile Leu Ile	
275	280	285
Leu Thr Lys Leu Tyr Asp	Phe Asn Leu Gly Ser Val Thr Glu Ser Ser	
290	295	300
Leu Trp Arg Ser Thr Asp	Tyr Gly Thr Thr Tyr Glu Lys Leu Asn Asp	
305	310	315
Lys Val Gly Leu Lys Thr	Val Leu Ser Tyr Leu Tyr Val Asn Pro Thr	
325	330	335
Asn Lys Arg Lys Ile Met	Leu Leu Ser Asp Pro Glu Met Glu Ser Ser	
340	345	350
Ile Leu Ile Ser Ser Asp	Glu Gly Ala Thr Tyr Gln Lys Tyr Arg Leu	
355	360	365
Thr Phe Tyr Ile Gln Ser	Leu Phe His Pro Lys Gln Glu Asp Trp	
370	375	380
Val Leu Ala Tyr Ser Leu	Asp Gln Lys Leu Tyr Ser Ser Met Asp Phe	
385	390	395
Gly Arg Arg Trp Gln Leu	Met His Glu Arg Ile Thr Pro Asn Arg Phe	
405	410	415
Tyr Trp Ser Val Ala Gly	Leu Asp Lys Glu Ala Asp Leu Val His Met	
420	425	430
Glu Val Arg Thr Thr Asp	Gly Tyr Ala His Tyr Leu Thr Cys Arg Ile	
435	440	445
Gln Glu Cys Ala Glu Thr	Thr Arg Ser Gly Pro Phe Ala Arg Ser Ile	
450	455	460
Asp Ile Ser Ser Leu Val	Val Gln Asp Glu Tyr Ile Phe Ile Gln Val	
465	470	475
Thr Thr Ser Gly Arg Ala	Ser Tyr Tyr Val Ser Tyr Arg Arg Glu Ala	
485	490	495
Phe Ala Gln Ile Lys Leu	Pro Lys Tyr Ser Leu Pro Lys Asp Met His	
500	505	510
Ile Ile Ser Thr Asp Glu	Asn Gln Val Phe Ala Ala Val Gln Glu Trp	
515	520	525
Asn Gln Asn Asp Thr Tyr	Asn Leu Tyr Ile Ser Asp Thr Arg Gly Ile	
530	535	540
Tyr Phe Thr Leu Ala Met	Glu Asn Ile Lys Ser Ser Arg Gly Leu Met	
545	550	555
Gly Asn Ile Ile Ile Glu	Leu Tyr Glu Val Ala Gly Ile Lys Gly Ile	
565	570	575
Phe Leu Ala Asn Lys Lys	Val Asp Asp Gln Val Lys Thr Tyr Ile Thr	
580	585	590
Tyr Asn Lys Gly Arg Asp	Trp Arg Leu Leu Gln Ala Pro Asp Val Asp	
595	600	605
Leu Arg Gly Ser Pro Val	His Cys Leu Leu Pro Phe Cys Ser Leu His	
610	615	620
Leu His Leu Gln Leu Ser	Glu Asn Pro Tyr Ser Ser Gly Arg Ile Ser	
625	630	635
Ser Lys Glu Thr Ala Pro	Gly Leu Val Val Ala Thr Gly Asn Ile Gly	

3446

1075	1080	1085
His Asn Pro Asp Ile	Pro Glu Trp Arg Lys Asp Ile Gly Asn Val Ile	
1090	1095	1100
Lys Arg Ala Leu Val	Lys Val Thr Ser Val Pro Glu Asp Gln Ile Leu	
1105	1110	1115
Ile Ala Val Phe Pro Gly Leu	Pro Thr Ser Ala Glu Leu Phe Ile Leu	1120
	1125	1130
Pro Pro Lys Asn Leu Thr	Glu Arg Lys Gly Asn Glu Gly Asp Leu	1135
	1140	1145
Glu Gln Ile Val Glu Thr	Leu Phe Asn Ala Leu Asn Gln Asn Leu Val	1150
	1155	1160
Gln Phe Glu Leu Lys Pro	Gly Val Gln Val Ile Val Tyr Val Thr Gln	1165
	1170	1175
Leu Thr Leu Ala Pro Leu	Val Asp Ser Ser Ala Gly His Ser Ser Ser	1180
1185	1190	1195
Ala Met Leu Met Leu Leu	Ser Val Val Phe Val Gly Leu Ala Val Phe	1200
	1205	1210
Leu Ile Tyr Lys Phe Lys	Arg Lys Ile Pro Trp Ile Asn Ile Tyr Ala	1215
	1220	1225
Gln Val Gln His Asp Lys	Glu Gln Met Ile Gly Ser Val Ser Gln	1230
	1235	1240
Ser Glu Asn Ala Pro Lys	Ile Thr Leu Ser Asp Phe Thr Glu Pro Glu	1245
	1250	1255
Glu Leu Leu Asp Lys Glu	Leu Asp Thr Arg Val Ile Gly Gly Ile Ala	1260
1265	1270	1275
Thr Ile Ala Asn Ser Glu	Ser Thr Lys Glu Ile Pro Asn Cys Thr Ser	1280
	1285	1290
Val		1295

&lt;210&gt; 4249

&lt;211&gt; 553

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4249

```

nnccgggccc tccccaaaaa ggaccagggt gtccagaaaa gtgagcagct aaaactgttt
60
ctaagaaact caactgcata cagaacaaag attaagatga tttataaaaa tgctaaaaca
120
cccagcacgc aacatggtaa aattcgcaat gcctcaggca tcaacccgag agtaccaggc
180
ccacaggaag gcagcataat aggaccccaa acaaggagga aaagcagcct cctgaaaccg
240
accctgatat cagaaccagc agacatgggc actcagcagt tcttacaact gaatcccaat
300
ctgcaaaagt ttagtagaga catggaagac gtaaagggga cccaagcaa gcctctagag
360
aattataaca tggttgctgg gcttggtggc tcacgcgtgt catcgcagca ctttggggag
420
ctgaggcagg aggatcgctt gagcccagga gttcaagacc agcctggacc acatagttag
480
accccatct cataaaaaat aaaaaaaaaat tgaattacaa cacgaggtga caaaagcact
540

```

ggatgagatt aac  
553

<210> 4250

<211> 164

<212> PRT

<213> Homo sapiens

<400> 4250

Xaa Arg Ala Leu Pro Lys Lys Asp Gln Val Val Gln Lys Ser Glu Gln  
1 5 10 15  
Leu Lys Leu Phe Leu Arg Asn Ser Thr Ala Ser Arg Thr Lys Ile Lys  
20 25 30  
Met Ile Tyr Lys Asn Ala Lys Thr Pro Ser Thr Gln His Gly Lys Ile  
35 40 45  
Arg Asn Ala Ser Gly Ile Asn Pro Arg Val Pro Gly Pro Gln Glu Gly  
50 55 60  
Ser Ile Ile Gly Pro Gln Thr Arg Arg Lys Ser Ser Leu Leu Lys Pro  
65 70 75 80  
Thr Leu Ile Ser Glu Pro Ala Asp Met Gly Thr Gln Gln Phe Leu Gln  
85 90 95  
Leu Asn Pro Asn Leu Gln Lys Phe Ser Arg Asp Met Glu Asp Val Lys  
100 105 110  
Gly Thr Pro Ser Lys Pro Leu Glu Asn Tyr Asn Met Leu Ala Gly Leu  
115 120 125  
Gly Gly Ser Arg Val Ser Ser Gln His Phe Gly Arg Leu Arg Gln Glu  
130 135 140  
Asp Arg Leu Ser Pro Gly Val Gln Asp Gln Pro Gly Pro His Ser Glu  
145 150 155 160  
Thr Pro Ile Ser

<210> 4251

<211> 1574

<212> DNA

<213> Homo sapiens

<400> 4251

nngggggggg gggggggggg ggtaagctc cttcagtagg gtactagggc accaaaaaaa  
60  
aaaagggcgg cgcggggggg gtccccaca caaaaaagg gggggaaagg aattcgcccc  
120  
gggggggggc caggccctaa cccatttat ttcattccac agatgagggc aaccttaaga  
180  
gggaaggggg agatggcagg gccagcgggc gcaggaagtg ccttcccacc ccaggaacct  
240  
gacacatctc gtctccctc ttttcgcac tgtgggcaca aagacacttt ttcttcgca  
300  
ggggcgggag cccctagttc caacttgag gacgcgtgac atgggtgggca ccggaaagga  
360  
ggggacttct cctgcacccc aagaagtggg ggggagattg ctgccctat agccatatct  
420  
cggccccttc cactcacca cccccaccc aggtgctggg ggtcccttat ttttatgcaa  
480



taactgagct tgatgggggt gggcaggggg ccagttgagc caatcaccag cctccatatt  
 540  
 acagatcctg accctgaatc tcaggagctg cagatcgggg gcacctgccc tgacatcacc  
 600  
 aaacgctacc tgcgcctgac ctgtgcccc gaccggtcca ccgtgcgccc tgtggcagtt  
 660  
 ttgaaaaagt cgctgtgcat ggtcaagtgc cactggaaag agaagcagga ctacgcgttt  
 720  
 gcctgcgagc agatgaagtc gatccggcag gatctgacgg tgcagggcat ccgcaccgag  
 780  
 ttcacgggtg aggtgtacga gacccatgcc cggatcgcct tggagaaggg tgaccatgaa  
 840  
 gagtttaacc agtgccagac gcagctcaag tcgctgtacg ccgagaactt gcctggcaat  
 900  
 gtgggcgagt ttactgccta ccgaatcctc tactacatct tcaccaagaa ctccgggagac  
 960  
 atcaccacgg agctggcata cctcacacga gaactgaagg cagatccttg cgtggcccac  
 1020  
 gccttggcat taaggacagc ctgggccttg ggcaactacc accgcttttt ccggctctac  
 1080  
 tgccatgcac cctgcatgtc tggctacctc gtggacaagt ttgcagatcg ggagcgcaag  
 1140  
 gtcgcctca aggccatgat caaaacgtat gtggtgccaa gctcccttct gcctttgctc  
 1200  
 ttcccatcct tcgcctcgc accgccccctc agaccagctc ctggccgcag gcctccccc  
 1260  
 gcccccaacc cttgtcctgg tccttgcttc cccatcatct ttctccattc agccctcccc  
 1320  
 tctccagttc ctcttgctct ccttgttggt cactctgtg ttccgggtca ctctctccc  
 1380  
 tctccccact gtccccagct cactgcctct ggggcctctt ctccaccca tctgtgtgtc  
 1440  
 tcttctcct gttctctcct gcctggaccc cctagttcac tccttgccct gggttctctc  
 1500  
 agaaccctga ggtctctgct ttctcagctt gtcgctgtgc tcccaccata gagaccatct  
 1560  
 agacagcctc tgg  
 1574

&lt;210&gt; 4252

&lt;211&gt; 352

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4252

Met Gly Val Gly Arg Gly Pro Val Glu Pro Ile Thr Ser Leu His Ile  
 1 5 10 15  
 Thr Asp Pro Asp Pro Glu Ser Gln Glu Leu Gln Ile Gly Gly Thr Cys  
 20 25 30  
 Pro Asp Ile Thr Lys Arg Tyr Leu Arg Leu Thr Cys Ala Pro Asp Pro  
 35 40 45  
 Ser Thr Val Arg Pro Val Ala Val Leu Lys Lys Ser Leu Cys Met Val  
 50 55 60  
 Lys Cys His Trp Lys Glu Lys Gln Asp Tyr Ala Phe Ala Cys Glu Gln

65		70		75		80									
Met	Lys	Ser	Ile	Arg	Gln	Asp	Leu	Thr	Val	Gln	Gly	Ile	Arg	Thr	Glu
			85						90					95	
Phe	Thr	Val	Glu	Val	Tyr	Glu	Thr	His	Ala	Arg	Ile	Ala	Leu	Glu	Lys
		100					105						110		
Gly	Asp	His	Glu	Glu	Phe	Asn	Gln	Cys	Gln	Thr	Gln	Leu	Lys	Ser	Leu
	115					120					125				
Tyr	Ala	Glu	Asn	Leu	Pro	Gly	Asn	Val	Gly	Glu	Phe	Thr	Ala	Tyr	Arg
	130					135					140				
Ile	Leu	Tyr	Tyr	Ile	Phe	Thr	Lys	Asn	Ser	Gly	Asp	Ile	Thr	Thr	Glu
145				150						155					160
Leu	Ala	Tyr	Leu	Thr	Arg	Glu	Leu	Lys	Ala	Asp	Pro	Cys	Val	Ala	His
			165					170						175	
Ala	Leu	Ala	Leu	Arg	Thr	Ala	Trp	Ala	Leu	Gly	Asn	Tyr	His	Arg	Phe
		180					185						190		
Phe	Arg	Leu	Tyr	Cys	His	Ala	Pro	Cys	Met	Ser	Gly	Tyr	Leu	Val	Asp
	195					200						205			
Lys	Phe	Ala	Asp	Arg	Glu	Arg	Lys	Val	Ala	Leu	Lys	Ala	Met	Ile	Lys
	210					215						220			
Thr	Tyr	Val	Val	Pro	Ser	Ser	Leu	Leu	Pro	Leu	Phe	Pro	Ser	Phe	
225				230						235				240	
Arg	Leu	Ala	Pro	Pro	Leu	Arg	Pro	Ala	Pro	Gly	Arg	Arg	Pro	Pro	Pro
			245						250					255	
Ala	Pro	Asn	Pro	Cys	Pro	Gly	Pro	Cys	Phe	Pro	Ile	Ile	Phe	Leu	His
		260					265						270		
Ser	Ala	Leu	Pro	Ser	Pro	Val	Pro	Leu	Ala	Leu	Leu	Val	Gly	His	Leu
	275					280						285			
Cys	Val	Pro	Gly	His	Ser	Ser	Pro	Ser	Pro	His	Cys	Ser	Gln	Leu	Thr
	290					295					300				
Ala	Ser	Gly	Ala	Ser	Ser	Pro	Pro	His	Leu	Cys	Val	Ser	Ser	Ser	Cys
305				310						315				320	
Ser	Leu	Leu	Pro	Gly	Pro	Pro	Ser	Ser	Leu	Leu	Ala	Leu	Gly	Phe	Leu
			325					330						335	
Arg	Thr	Leu	Arg	Ser	Leu	Leu	Ser	Gln	Leu	Val	Ala	Val	Leu	Pro	Pro
		340					345						350		

&lt;210&gt; 4253

&lt;211&gt; 1287

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4253

nntacggctg cgagaagaca cagactgtgc aacccccaaa gcaggtctcc tcaactaccg  
 60  
 ggatagatag aactatcggc cccaattcct cagccctacc tgcaaccacc gcttgccatg  
 120  
 gtttccttgt ggggtggaggg tactttcccg ccccttggtt tcgggcttgc ccacgtggct  
 180  
 tgctctggcc atggaatgaa gcagaaacga aagcctgcca gttctgagcc tatgccggaa  
 240  
 gacgccttgg gcggttcgc ggccctgtg cgcttcacc ttcaccaga aggacttctc  
 300  
 tgggtcagcc gctgcttctt cagccacggc ccaaaaggat cggagccccc tggccgatcc  
 360

gcaggtctgc agggagccac agagcgacgc ggccggccca gcgttcaagc ccaagcacag  
 420  
 gcctgcgaga acctgttcc agccaccgtt tgggatggtt gattaggact tgttcagtg  
 480  
 gcggtagctc accaatccag tgcgtgcacc cgctccttta ttaggtata gagccagtgg  
 540  
 ctcccacagg gacctgatac aacagtgcgt taaataagga gcatattgag ctctcatgtc  
 600  
 gtaagccagt ggagaagtcc agggctagtg tgggggctcc ggcgggggct gtggccccc  
 660  
 tccgcatgga gcctcccat gggtcacagg tctcagtctt cggagccttc ggccctgcga  
 720  
 gcccgaacgg tccacagggc ggcgccagac cctctttcga acgccatcct ctaaagcggc  
 780  
 tggaacaagg ttcttgagg cctgtgcttg ggcttgaacg ctgggcccgg cgcctgcgt  
 840  
 ctgtggctcc ctgtaggcct gcggatcggc cagggggctc cgctcctttt gggcggaggc  
 900  
 tgaagaagca ggggctgcac cagagaaggc cctctgggtg aaggtgggag cgcacggggc  
 960  
 ccgcggaacc acctaaggcg acttcagacg tgggctcgga actggcagcc ttctgtttct  
 1020  
 gcttcattcc aaggccagag caagccacgt gggcaaacc aaagccaggg gacaggaaag  
 1080  
 tatcctccac ccacaacgaa accatggcaa gcggtggatg caggtacggc caatagtcta  
 1140  
 tctatcccgg tgagtgagga gacctgctt gaggggttga caacctggat ctgcttttac  
 1200  
 agtgggtgtc gtcactatga agacccaca gggcggcgcc agaccttct tcgaacgcca  
 1260  
 tcctctaaag cctcggtccc aaccggt  
 1287

&lt;210&gt; 4254

&lt;211&gt; 114

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4254

Met	Val	Ser	Leu	Trp	Val	Glu	Gly	Thr	Phe	Pro	Pro	Pro	Gly	Phe	Gly
1				5					10					15	
Leu	Ala	His	Val	Ala	Cys	Ser	Gly	His	Gly	Met	Lys	Gln	Lys	Arg	Lys
			20					25					30		
Pro	Ala	Ser	Ser	Glu	Pro	Met	Pro	Glu	Asp	Ala	Leu	Gly	Gly	Ser	Ala
			35					40					45		
Val	Pro	Val	Arg	Phe	His	Leu	His	Pro	Glu	Gly	Leu	Leu	Trp	Cys	Ser
			50			55					60				
Arg	Cys	Phe	Phe	Ser	His	Gly	Pro	Lys	Gly	Ser	Glu	Pro	Pro	Gly	Arg
65					70					75				80	
Ser	Ala	Gly	Leu	Gln	Gly	Ala	Thr	Glu	Arg	Ser	Gly	Arg	Pro	Ser	Val
			85					90						95	
Gln	Ala	Gln	Ala	Gln	Ala	Cys	Glu	Asn	Leu	Val	Pro	Ala	Thr	Val	Trp
			100					105						110	
Asp	Gly														

&lt;210&gt; 4255

&lt;211&gt; 2205

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4255

cccgggcctc aaattctctg tcagaaatga agtaatggct accagccacg tcacagatga  
60  
atggatgaca caaatggaaa tgagtagcct gaacacttac attgtccgcc gttgcatagc  
120  
aacacccaat ggcgtcctca gaatttattc tgggtccctc atgggacaag cattggatcc  
180  
cactaggaaa caatggtatc tccatgcagt agctaacca gggttgattt ctttgactgg  
240  
tccttactta gatgttgagg gagctgggta tgttgagaca atcagtcaca caattcatc  
300  
atccagtaca cagctgtctt ctgggcacac tgtggctgtg atgggcattg acttcacact  
360  
cagatacttc taaaagttc tgatggacct attacctgtc tgtaaccaag atgggtggaa  
420  
caaaataagg tgcttcataa tggaggacag gggttatctg gtggcgacc cgactctcat  
480  
cgaccccaaa ggacatgcac ctgtggagca gcagcacatc accacaagg agcccctgg  
540  
agcaaagat atcctcaacc accccaactt tgtaaagaaa aacctgtgca acagcttcag  
600  
tgacagaacg gtccagaggt ttataaatt caacaccagc cttgcggggg atttgacgaa  
660  
ccttggtcat ggcagccact gttccaaata cagattagca aggatcccag gaaccaacgc  
720  
gtttgttggc attgtcaacg aaacctgcga ctctcttgcc ttctgtgcct gcagcatgg  
780  
ggaccgactc tgtctcaact gtcaccgaat ggaacaaaat gaatgtgaat gtccttgga  
840  
gtgccctcta gaggtcaatg agtgactgg caacctcacc aatgcagaga accgaaaccc  
900  
cagctgcgag gtccaccagg agccggtgac atacacagct attgacctg gcctgcaaga  
960  
tgctcttcac cagtgtgtca acagcagggt cagtcagagg ctggaaagt gggactgttt  
1020  
tggggtgctg gattgtgaat ggtgcatggg ggacagtgat ggaaagactc acctggacaa  
1080  
accctactgt gccccccaga aagaatgctt cggggggatt gtgggagcca aaagtcccta  
1140  
cgttgatgac atgggagcaa taggtgatga ggtgatcaca ttaaaatgat taaaagcgcc  
1200  
cctgtgggtc ttgtggctgg agggatcatg ggatgcatca atggttttgg tcctggcggt  
1260  
gtatgcctac cgccaccaga ttcacgcgcg gagccatcag catatgtctc ctcttgctgc  
1320  
ccaagaaatg tcagtgcgta tgtccaacct ggagaatgac agagatgaaa gggacgacga  
1380

cagccacgaa gacagaggca tcacagcaa cactcggttt atagctgagg tcacgaacg  
 1440  
 acatgcacac agtcagaaa gaaggcgccg ctactggggg cgatcaggaa cagaaagtga  
 1500  
 tcatgggttac agcaccatga gccacagga ggacagtga aatcctccat gcaacaatga  
 1560  
 ccccttgtca gccgggggtcg atgtgggaaa ccatgatgag gacttagacc tggatacccc  
 1620  
 ccctcagact gctgccctac taagtcacaa gttccaccac taccggtcac accaccctac  
 1680  
 acttcacat agccaccact tacaggcggc cgtcacggta cacactgtcg atgcagaatg  
 1740  
 ctaacaatct cctcacctcc acgccaagat gagatctggg agctacagaa tgttctggaa  
 1800  
 agaaaaagaa ccggcttaaa acccacagca agagacctcc cttgtgtttg tgctttgtgc  
 1860  
 agagttgttt gagtcatttc ctgcctgtcg acatgggtta aaacgagaga aacaacaaca  
 1920  
 cagtcacatt tgtgaagatg tgaggctggg tctgaaatgg aggggaaata agcctgatga  
 1980  
 acagacctgc cataacacta atggaaggta acagaaggcg aacctccaaa cacagagacg  
 2040  
 gaacctgcaa gtgaagctga gccagaggaa tgttccaaag agccagaagc attcagctct  
 2100  
 ccttaactgg aagagagaaa aatctgtctc cccagagact ggaatgtggc acatgcagat  
 2160  
 acaaatgtgt gcattgaaga ttctgctttg tttcttagcg gtacc  
 2205

&lt;210&gt; 4256

&lt;211&gt; 384

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4256

Met	Ala	Thr	Ser	His	Val	Thr	Asp	Glu	Trp	Met	Thr	Gln	Met	Glu	Met
1				5				10					15		
Ser	Ser	Leu	Asn	Thr	Tyr	Ile	Val	Arg	Arg	Cys	Ile	Ala	Thr	Pro	Asn
			20					25					30		
Gly	Val	Leu	Arg	Ile	Tyr	Ser	Gly	Ser	Leu	Met	Gly	Gln	Ala	Leu	Asp
		35					40					45			
Pro	Thr	Arg	Lys	Gln	Trp	Tyr	Leu	His	Ala	Val	Ala	Asn	Pro	Gly	Leu
		50				55					60				
Ile	Ser	Leu	Thr	Gly	Pro	Tyr	Leu	Asp	Val	Gly	Gly	Ala	Gly	Tyr	Val
65				70					75					80	
Val	Thr	Ile	Ser	His	Thr	Ile	His	Ser	Ser	Ser	Thr	Gln	Leu	Ser	Ser
			85					90						95	
Gly	His	Thr	Val	Ala	Val	Met	Gly	Ile	Asp	Phe	Thr	Leu	Arg	Tyr	Phe
			100					105					110		
Tyr	Lys	Val	Leu	Met	Asp	Leu	Leu	Pro	Val	Cys	Asn	Gln	Asp	Gly	Gly
		115					120					125			
Asn	Lys	Ile	Arg	Cys	Phe	Ile	Met	Glu	Asp	Arg	Gly	Tyr	Leu	Val	Ala
		130				135						140			
His	Pro	Thr	Leu	Ile	Asp	Pro	Lys	Gly	His	Ala	Pro	Val	Glu	Gln	Gln

```

145          150          155          160
His Ile Thr His Lys Glu Pro Leu Val Ala Asn Asp Ile Leu Asn His
          165          170          175
Pro Asn Phe Val Lys Lys Asn Leu Cys Asn Ser Phe Ser Asp Arg Thr
          180          185          190
Val Gln Arg Phe Tyr Lys Phe Asn Thr Ser Leu Ala Gly Asp Leu Thr
          195          200          205
Asn Leu Val His Gly Ser His Cys Ser Lys Tyr Arg Leu Ala Arg Ile
          210          215          220
Pro Gly Thr Asn Ala Phe Val Gly Ile Val Asn Glu Thr Cys Asp Ser
225          230          235          240
Leu Ala Phe Cys Ala Cys Ser Met Val Asp Arg Leu Cys Leu Asn Cys
          245          250          255
His Arg Met Glu Gln Asn Glu Cys Glu Cys Pro Cys Glu Cys Pro Leu
          260          265          270
Glu Val Asn Glu Cys Thr Gly Asn Leu Thr Asn Ala Glu Asn Arg Asn
          275          280          285
Pro Ser Cys Glu Val His Gln Glu Pro Val Thr Tyr Thr Ala Ile Asp
          290          295          300
Pro Gly Leu Gln Asp Ala Leu His Gln Cys Val Asn Ser Arg Cys Ser
305          310          315          320
Gln Arg Leu Glu Ser Gly Asp Cys Phe Gly Val Leu Asp Cys Glu Trp
          325          330          335
Cys Met Val Asp Ser Asp Gly Lys Thr His Leu Asp Lys Pro Tyr Cys
          340          345          350
Ala Pro Gln Lys Glu Cys Phe Gly Gly Ile Val Gly Ala Lys Ser Pro
          355          360          365
Tyr Val Asp Asp Met Gly Ala Ile Gly Asp Glu Val Ile Thr Leu Lys
          370          375          380

```

&lt;210&gt; 4257

&lt;211&gt; 1541

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4257

```

agacgtcagt gccgtcgagg agctcttcag cgctgcgtac acgtgtaccc cagttcagtt
60
ttcttgacat cttcccaaaa gtcacctgca ggccctcccaa agagggtgata gacatggagc
120
tgagtgcctt gaggagtgtg acagagcctg ggatggatct ttgggagttc tgcagcgaaa
180
ctttccaaag accttaccag tatttaagac gattcaatcc aaaccagac cttaaccogg
240
ttcaagattc agaaagggtt tgccgaaggc ccccgaggg aatgcctcca gcatttctgt
300
tttactggg gggttaataaa cccatcctgg ccaaacctcc ggaactttgc tcggttctgt
360
aattatcagc tcagagattg tgaggcctct ctcttctgca atccgagttt tattggcgac
420
acactgaggg gcttcaagaa gttcgtggtg accttcatga tctttatggc aagagatttt
480
gccacacat cactccacac ctctgaccaa agcccgaggga agcacatggt caccatggat
540

```

ggggttaggg aagaagatct agcgcccttc tccctccgga agaggtggga gtcggagcct  
 600  
 caccatacgy ttttcttcaa tgacgaccac acaaccatga cattcatcgg cttccatctg  
 660  
 cagcccaaca tcaacggcag tgtcgatgcc atcagtcact tgactgggaa ggtcatcaag  
 720  
 agagacgtca tgaccaggga cctgtaccag ggctgctgc tccagagggt gcccttcaat  
 780  
 gtcgactttg ataaactgcc cagacacaag aaacttgaga ggctctgcct gaccttaggg  
 840  
 atccccagg ccaccgaccc cgacaaaacg tatgagctca caaccgacaa tatgcttaaa  
 900  
 atccttgcca tcgagatgcg gttccgggtgt gggatccccg ttatcatcat gggagaaact  
 960  
 ggctgtggga aaaccaggct tattaattc cttagcgacc tgcggcgtgg tggtagcaat  
 1020  
 gctgacacca taaagctggg caaggtgcac ggaggaacaa ctgcagacat gatctactcc  
 1080  
 agagtcaggg aggctgaaaa tgtggccttc gccataaagg accaacatca gttggacacc  
 1140  
 atcttgtttt ttgatgaagc caacacaacg gaagctataa gctgtatcaa agaagtcctg  
 1200  
 tgtgatcata tgggtgatgg ccagcctctg gctgaggact ctggcctgca tattatagct  
 1260  
 gcctgcaatc catacccgga gaactctgag gagatgatct gccgtttgga gtcagctggg  
 1320  
 ttgggctaca gggtagtat ggaggagacg gccgacaggc tgggctccat tcctctgggg  
 1380  
 tacacgtgta cgcagcgctg aagagctcct cgacggcact gacgtcctcc tttccaggat  
 1440  
 ttcaacgata tacaatggc aggggttccg aagccacatt ttccattta tatccattaa  
 1500  
 gtattgtaaa atgaggagct tgaaaagaaa caccgaatt c  
 1541

<210> 4258

<211> 314

<212> PRT

<213> Homo sapiens

<400> 4258

Met	Ile	Phe	Met	Ala	Arg	Asp	Phe	Ala	Thr	Pro	Ser	Leu	His	Thr	Ser
1				5					10					15	
Asp	Gln	Ser	Pro	Gly	Lys	His	Met	Val	Thr	Met	Asp	Gly	Val	Arg	Glu
			20						25				30		
Glu	Asp	Leu	Ala	Pro	Phe	Ser	Leu	Arg	Lys	Arg	Trp	Glu	Ser	Glu	Pro
			35						40				45		
His	Pro	Tyr	Val	Phe	Phe	Asn	Asp	Asp	His	Thr	Thr	Met	Thr	Phe	Ile
			50				55				60				
Gly	Phe	His	Leu	Gln	Pro	Asn	Ile	Asn	Gly	Ser	Val	Asp	Ala	Ile	Ser
					70					75				80	
His	Leu	Thr	Gly	Lys	Val	Ile	Lys	Arg	Asp	Val	Met	Thr	Arg	Asp	Leu
				85					90					95	
Tyr	Gln	Gly	Leu	Leu	Leu	Gln	Arg	Val	Pro	Phe	Asn	Val	Asp	Phe	Asp

```
<210> 4260
<211> 125
<212> PRT
<213> Homo sapiens
```



&lt;400&gt; 4260

```

Ser Ala Thr Gly Pro Gly Val Pro Met Cys Gln Val Gly Glu Asp Tyr
 1           5           10           15
Gly Glu Pro Ala Pro Glu Glu Pro Pro Pro Ala Pro Arg Pro Ser Arg
          20           25           30
Glu Gln Lys Cys Val Lys Cys Lys Glu Ala Gln Pro Val Val Val Ile
          35           40           45
Arg Ala Gly Asp Ala Phe Cys Arg Asp Cys Phe Lys Ala Phe Tyr Val
          50           55           60
His Lys Phe Arg Ala Met Leu Gly Lys Asn Arg Leu Ile Phe Pro Gly
          65           70           75           80
Glu Lys Val Leu Leu Ala Trp Ser Gly Gly Pro Ser Ser Ser Ser Met
          85           90           95
Val Trp Gln Val Leu Glu Gly Leu Ser Gln Asp Ser Ala Lys Arg Leu
          100          105          110
Arg Phe Val Ala Gly Val Ile Phe Val Asp Glu Gly Ala
          115          120          125

```

&lt;210&gt; 4261

&lt;211&gt; 592

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4261

```

acgcgttact cctaccaggt ttagcatgc atctttttga gagagcagct gggatcgagt
60
atactcttga cttaaataatg ttgttttata aagacaaatg gagaaatcaa tttttttccc
120
tgaattctta ggagcacttt agtgaataaa gaacctgaca gtatgctggc ccacatgttt
180
aaggacaaag gtgtctgggg aaataagcaa gatcatagag gagctttctt aattgaccga
240
agtcttgagt acttgaacc ctttttgaac tacttgcgtc atggacagct cattgtaaat
300
gatggcatta atttattggg tgtgttagaa gaagcaagat tttttggtat tgactcattg
360
attgaacacc tagaagtggc aataaagaat tctcaaccac cggaggatca ttcaccaata
420
tcccgaaagg aatttgccg atttttgcta gcaactccaa ccaagtcaga actgcgatgc
480
cagggtttga acttcagtgg tgctgatctt tctcgtttgg accttcgata cattaacttc
540
aaaatggcca atttaagccg ctgtaatctt gcacatgcaa atctttgctg tg
592

```

&lt;210&gt; 4262

&lt;211&gt; 156

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4262

```

Ile Leu Arg Ser Thr Leu Val Asn Lys Glu Pro Asp Ser Met Leu Ala
 1           5           10           15
His Met Phe Lys Asp Lys Gly Val Trp Gly Asn Lys Gln Asp His Arg

```

```

      20      25      30
Gly Ala Phe Leu Ile Asp Arg Ser Pro Glu Tyr Phe Glu Pro Ile Leu
      35      40      45
Asn Tyr Leu Arg His Gly Gln Leu Ile Val Asn Asp Gly Ile Asn Leu
      50      55      60
Leu Gly Val Leu Glu Glu Ala Arg Phe Phe Gly Ile Asp Ser Leu Ile
      65      70      75      80
Glu His Leu Glu Val Ala Ile Lys Asn Ser Gln Pro Pro Glu Asp His
      85      90      95
Ser Pro Ile Ser Arg Lys Glu Phe Val Arg Phe Leu Leu Ala Thr Pro
      100      105      110
Thr Lys Ser Glu Leu Arg Cys Gln Gly Leu Asn Phe Ser Gly Ala Asp
      115      120      125
Leu Ser Arg Leu Asp Leu Arg Tyr Ile Asn Phe Lys Met Ala Asn Leu
      130      135      140
Ser Arg Cys Asn Leu Ala His Ala Asn Leu Cys Cys
      145      150      155

```

&lt;210&gt; 4263

&lt;211&gt; 7710

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4263

```

cagaggaatc tggtcctcaa ggcattcacg gacttcctgg ccttcattggt cctctttaac
60
tacatcatcc ctgtgtccat gtacgtcacg gtcgagatgc agaagttcct cggtctttac
120
ttcatcacct gggacgaaga catgtttgac gaggagactg gcgagggggc tctggtgaac
180
acgtcggacc tcaatgaaga gctgggacag gtggagtaca tcttcacaga caagaccggc
240
accctcacgg aaaacaacat ggagttcaag gagtgctgca tcgaaggcca tgtctacgtg
300
ccccacgtca tctgcaacgg gcaggtcctc ccagagtcgt caggaatcga catgattgac
360
tcgtcccccga gcgtcaacgg gaggagcgc gaggagctgt tttccgggc cctctgtctc
420
tgccacaccg tccaggtgaa agacgatgac agcgtagacg gcccaggaa atcgccggac
480
ggggggaaat cctgtgtgta catctcatcc tcgcccagcg aggtggcgct ggtcgaaggt
540
gtccagagac ttggctttac ctacctaagg ctgaaggaca attacatgga gatattaaac
600
agggagaacc acatcgaaag gtttgaattg ctggaaattt tgagttttga ctcagtcaga
660
aggagaatga gtgtaattgt aaaatctgct acaggagaaa tttatctgtt ttgcaaagga
720
gcagattctt cgatattccc ccgagtgata gaaggcaaag ttgaccagat ccgagccaga
780
gtggagcgta acgcagtgga ggggctccga actttgtgtg ttgcttataa aaggctgatc
840
caagaagaat atgaaggcat ttgtaagctg ctgcaggctg ccaaagtggc ccttcaagat
900

```

cgagagaaaa agttagcaga agcctatgag caaatagaga aagatcttac tctgcttggg  
960  
gctacagctg ttgaggaccg gctgcaggag aaagctgcag acaccatcga ggccctgcag  
1020  
aaggccggga tcaaagtctg ggttctcacg ggagacaaga tggagacggc cgcggccacg  
1080  
tgctacgcct gcaagctctt ccgcaggaac acgcagctgc tggagctgac caccaagagg  
1140  
atcgaggagc agagcctgca cgacgtcctg ttcgagctga gcaagacggc cctgcgccac  
1200  
agcgggagcc tgaccagaga caacctctcc ggactttcag cagatatgca ggactacggc  
1260  
ttaattatcg acggagctgc actgtctctg ataataagc ctcgagaaga cgggagtcc  
1320  
ggcaactaca gggagctctt cctggaaatc tgccggagct gcagcgcggc gctctgctgc  
1380  
cgcatggcgc ccttgacagaa ggctcagatt gttaaattaa tcaaattttc aaaagagcac  
1440  
ccaatcacgt tagcaattgg cgatggtgca aatgatgtca gcatgattct ggaagcgac  
1500  
gtgggcatag gtgtcatcgg caaggaaggc cgccaggctg ccaggaacag cgactatgca  
1560  
atcccaaagt ttaagcattt gaagaagatg ctgcttggtc acgggcattt ttattacatt  
1620  
aggatctctg agctcgtgca gtacttcttc tataagaacg tctgcttcat cttccctcag  
1680  
tttttatacc agttcttctg tgggttttca caacagactg tgcacgacac cgcgtatctg  
1740  
acctctaca acatcagctt cacctccctc cccatcctcc tgtacagcct catggagcag  
1800  
catgttggca ttgacgtgct caagagagac ccgacctgt acaggacgt cgccaagaat  
1860  
gccctgctgc gctggcgcgt gttcatctac tggacgctcc tgggactggt tgacgcactg  
1920  
gtgtttcttct ttggtgctta tttcgtgttt gaaaatacaa ctgtgacaag caacgggcag  
1980  
atatttgga actggacgtt tggaacgctg gtattcaccg tgatggtgtt cacagttaca  
2040  
ctaaagcttg cattggacac aactactgg acttgatca accattttgt catctggggg  
2100  
tcgctgctgt tctacgttgt cttttcactt ctctggggag gagtgatctg gccgttcctc  
2160  
aactaccaga ggatgtacta cgtgttcac cagatgctgt ccagcgggcc cgctggctg  
2220  
gccatcgtgc tgctggtgac catcagctc cttcccagc tcctcaagaa agtcctgtgc  
2280  
cggcagctgt ggccaacagc aacagagaga gtccagacta agagccagt cctttctgtc  
2340  
gagcagtcaa ccatctttat gctttctcag acttccagca gcctgagttt ctgatggaac  
2400  
aagagcccag gctaccagag cacctgtccc tcggccgcct ggtacagctc cactctcag  
2460  
caggtgacac tcgcggcctg gaaggagaag gtgtccacgg agccccacc catcctcggc  
2520

ggttcccatc accactgcag ttccatccca agtcacagct gccctaggtc ccgtgtggga  
2580  
atgctcgtgt gatggatggt cctaagcctg tggagactgt gcacgtgcct cttcctggcc  
2640  
cccagcaggc aaggaggggg gtcacaggcc ttgccctcga gcatggcacc ctggccgcct  
2700  
ggaccagca ctgtggttgt tgagccacac cagtggcctc tgggcattcg gctcaacgca  
2760  
ggagggacat tctgctggcc caccctgcgc gctgtcatgc agaggccatt cctccaggcc  
2820  
tgtgtcttca ccacctgcc gtcattggcc tttgctgtca ctgggagaga agagccgtcc  
2880  
agggaacccat ggtggccac atgtggatgc cacatgtgc tgtttcctgc ttgccggcc  
2940  
accacccatg cctccatag ggtgaggtgg agccatggtg gtgcgtcctt tactcaacaa  
3000  
ccctccaatc cggatgctgt gggaagggcc gggtcactcg gataccatca tccctgcgga  
3060  
tgcaccgccc taccctgtc atctgggagt ggtttccctg cggttacgtc caagcccgcc  
3120  
tgccctgtgt gttggggctg gctgagtttc ggtctcccca tcaccggccg cctcgtggag  
3180  
aaggcagtgc cacgtgggag gacaaggcca cgccggcagc ttccagccct gccgcagaag  
3240  
tgccaggatg tccatcagcc actcgccagg gcacggagcc gtcagtccac tgttacggga  
3300  
gaatgttgat ttccggggtg cgagggcccg gagacagata cttggctgtg atgagcagac  
3360  
atcctctgtc cccgtggagg ggtcaacacc aagggtggtg tcgtgcacca gaacctgtct  
3420  
cgggctgacg ggggtggcac acaggacacg ggtggatccc aacaggcagc accgcacctc  
3480  
cgcccgcctc cgcactgca gctccgcccg cggggtctg cgtctccacg tcccctcgte  
3540  
ccatcccccac gtcccctcat cccgtcacct cgtccccaca tccccttgcc cgtcacctc  
3600  
gtcctcatgt cccctgtcc tgtcacctcg tcccacgtc cctcgtctc atccccacgt  
3660  
cctctcgte ccttgctccc tcccacata cctcgtccc catgtcccca cgcagggtc  
3720  
tccttcgtct taggatctgt ccagcgtgc tctgggtggg ttagcaacct cagggtgct  
3780  
gtgataggaa gtccctgttg ttctccgtac tggcatttct atttctagaa ataattttg  
3840  
acatagcctt aatggctcct aaagaagaca tttcagtgtg agattcagac ttcagacgt  
3900  
gaaactgctg cctttcagga aagcaccacc aacgctggag gaggagccgg cctcagccc  
3960  
cgccccgcgc cacgctgtgg aacggggctc cggaagtga aaccagagg gtgtttccga  
4020  
ggtgctcgac agtaggtatt tttggaagct cagatttcac catttgattg tataatcttt  
4080  
tacctataaa atatttattt gaagtagagg gtaaatacgc ggtaagaaca gtgaacacag  
4140

tggttgggat aaaataaggt gacaaacatc acaccaaaga tgagggtagc gagcaactgg  
4200  
cttgagcaga cagaacgggg aagactccac tctgtcccga ggggccagcc gcaggcgtcc  
4260  
ccagggccac cctgccctga ggtccttggt tggccgccct ggcttggcag ccctgcccac  
4320  
gctgcccccg caaacaatgg tgtgtgctt tttacagccc tttttaggaa cccaatatgg  
4380  
gcataaatgt aacacctgta gcgggggcag attctctgta tgttcagtta acaaattatt  
4440  
tgtaagtgtat ttttttagaa atcttaaaat tgcctttgca ctgaagtatt ttcatactgt  
4500  
tttatatctc ttttattcat ttatttaaca tactgtctaa ttttaaaaat aggtttttta  
4560  
agctttcatt ttaagttaa tgaaattttg gccactttac atttagattc tggtagaggt  
4620  
tttgactgaa tgttccaatc tctgatgaat gcgaattttc agatttgatt ttattctcta  
4680  
cacacacctc ttcttttctt ggtatttctg gtggcagtga ttagttgaac agcacattta  
4740  
aggcacgata atttgctaca ctttttcttt acaatttgtt gcaatttcat ctgctttcta  
4800  
tgtttcattg ttaattgcca tccttcagcc ttaaaaatag aagattctca cgtgaagggt  
4860  
tagtaagttg ggtcccagct ctgcctgtgt ggagatagtc accatgtacc tctgacaaca  
4920  
agtttttagt tgaaagtcac taaactttta cacactccca aacgtctttt taaaaattgc  
4980  
ttgggaaatt attaaatgaa tgtgcctgat gatttgaaat agacaagggg cacgagataa  
5040  
aaaagaaaag gatgagaaga tcctcagtga atgacgttgc agggctctca tgcaattttc  
5100  
cacctgcag tagttagtat ttacttgcct taaactaact ttgaagcaag taatgtcaac  
5160  
tttgagcact ttgttgagtt ttgaaaaatc ttatttgttg ctgcacaggt taataaatta  
5220  
tcaatttgta attcagcatg ttggtcagag acacggtcac tgattcacac ccagtccttg  
5280  
ccacagaccg tctcagacac gcacagtggg cctgctgcat gattcacacc cagtccttgc  
5340  
cacagaccgt ctcagacacg cacagtgggc ctgctgcatg attcacacc agtccttgc  
5400  
acagaccgtc tcagacacgc acagtgggcc tgctgcatgc gtgttacctg gcttttggct  
5460  
ccacgtcac tcatagccat gtccacatgg gggcttgac acaggatcac tcacatatgt  
5520  
acatgtaccc accacaaacg tgcaagctcc tgcacacatg catgcacaca aacgtgtaca  
5580  
caagtgtgag ctctacacg catacacaca cacacgtgta catgcaccaa agcatgtgtg  
5640  
acctacagac atgcagaaca tgcacgtgta cacataccac agacacgct gtgcatgctc  
5700  
ctacacaata catatgcaca tatcatgaac agcataagtt cctacacacg gacgtgtgat  
5760

acacacatgc atgtacaggt aagcacacat gtacaagctc ctacaggctt gctctcacac  
5820  
acgtgtatgc acagcagaga gacgtatgag cttctactgc acacatgcac acacacacgc  
5880  
acacgtacat tcactacaca cgtgcagcct cctgcacacg tgcacattca tgtgtacacc  
5940  
acaaatgagt tcccagacgt gtaaacacac gtgcacacat cgtacacatg tgagctccca  
6000  
cacgtacaca cagatgcaca tggacacacc ccaaacacgc acaggctcct acacacatgc  
6060  
acacacgtgt acaccacaaa cgagctccca gacatgtaaa cacatgtctc ccacacgtga  
6120  
gctcccacac atgtacacat gcacatgtac gcaccacaaa cacatgcgca ggctcctgca  
6180  
ggcgtgaata cacacatgca cacacatata cacacacgtg ccacaaacaa gtgcacactg  
6240  
tcctgggtgc ctgcactgca tcctgcctcc ttgctgaggg gccctgtga gaggcctctg  
6300  
gatgggcatg ggaagatggg ctccttgcc cccagcccat gcctccctgg gatgaagagt  
6360  
cccctcctg gcagaatgtc tgggctttgc agagcaggcc ccgggggtga agtcgcagct  
6420  
tcacttacac cagctgctct gtgagcaagg cttggtgccc tggacaaggc ccttcccctt  
6480  
tagggaggtc cagcctcgca agctgaaacc tcccctcggc tcagccctat accaggcggc  
6540  
cacagcagga ctggccacac ccacgccgca cctcatccgt gcacgcgtcg gagcacggcc  
6600  
agccttccgc cagcagccag ctgggaaggg ccgcggccgc ctaaagcccc agtcaacca  
6660  
gcctgtgtct gagcagacag ggcgaaacag caggccacac cgtctcgagg gaggaggcca  
6720  
gatgcggcca gcgtctccaa cagggtgacc atccgctcgg cttgctgagc gtttaaacia  
6780  
atgttttagac aggtgtgagg gactcccctg agttgagcct tggccagggg tccggtgctg  
6840  
tcgcgggaaa cctccagcct tgttcttcaa accactcagc tcattgtgtt tgcactgact  
6900  
agtactgaat aatacaacca ctcttattta atgttagtat tatttatttg acaactcagt  
6960  
gtctaacagc ttgatatgca ggtccttgca tcctacattt ctttaggaag ttaccattt  
7020  
gtaactttta aacaggaata aatatcagtt ggcaaatgca atcttttttt tttttaagct  
7080  
aaagggtggg gaactggaat gaaaatcttt ctgatgttgt gtctataagc agccttgatg  
7140  
ggatatgtta gaagtgtcat gaaagtgtga ttctactttt gcagaaaaat ctaaagatca  
7200  
atttatatag ctttattttt tactttatca aagtatacag aattttaata tgcatatatt  
7260  
gtgtctgact taaaattata atgtctgctg caccatttaa aatgtctgtt cattatgtaa  
7320  
tgtaataaaa gaaggctctc aaaaatgtat ttaacatgaa tggatccat agttgtcatc  
7380

atcataaata ctggagttaa tttttaaaatt attaaacata gtaggtgcat taacataaat  
 7440  
 cagtctccac acagtaacat ttaactgata attcattaat cagctttgaa aaattaaatt  
 7500  
 gttaattaaa ccaatctaac atttcagtaa agtttatattt gtatgcttct gtttttaact  
 7560  
 tttatttctg tagataaaact gactggataa tattatattg gacttttctc tagattatct  
 7620  
 aagcaggaga cctgaatctg cttgcaataa agaataaaaag tctgcttcag tttctttata  
 7680  
 aagaaactca aaaaaaaaaa aaaaaaaaaac  
 7710

<210> 4264

<211> 797

<212> PRT

<213> Homo sapiens

<400> 4264

Gln	Arg	Asn	Leu	Phe	Leu	Lys	Ala	Phe	Thr	Asp	Phe	Leu	Ala	Phe	Met
1			5						10				15		
Val	Leu	Phe	Asn	Tyr	Ile	Ile	Pro	Val	Ser	Met	Tyr	Val	Thr	Val	Glu
			20					25				30			
Met	Gln	Lys	Phe	Leu	Gly	Ser	Tyr	Phe	Ile	Thr	Trp	Asp	Glu	Asp	Met
		35				40						45			
Phe	Asp	Glu	Glu	Thr	Gly	Glu	Gly	Pro	Leu	Val	Asn	Thr	Ser	Asp	Leu
	50					55					60				
Asn	Glu	Glu	Leu	Gly	Gln	Val	Glu	Tyr	Ile	Phe	Thr	Asp	Lys	Thr	Gly
65				70					75					80	
Thr	Leu	Thr	Glu	Asn	Asn	Met	Glu	Phe	Lys	Glu	Cys	Cys	Ile	Glu	Gly
			85					90					95		
His	Val	Tyr	Val	Pro	His	Val	Ile	Cys	Asn	Gly	Gln	Val	Leu	Pro	Glu
			100					105				110			
Ser	Ser	Gly	Ile	Asp	Met	Ile	Asp	Ser	Ser	Pro	Ser	Val	Asn	Gly	Arg
		115				120						125			
Glu	Arg	Glu	Glu	Leu	Phe	Phe	Arg	Ala	Leu	Cys	Leu	Cys	His	Thr	Val
	130					135					140				
Gln	Val	Lys	Asp	Asp	Asp	Ser	Val	Asp	Gly	Pro	Arg	Lys	Ser	Pro	Asp
145				150					155					160	
Gly	Gly	Lys	Ser	Cys	Val	Tyr	Ile	Ser	Ser	Ser	Pro	Asp	Glu	Val	Ala
			165					170					175		
Leu	Val	Glu	Gly	Val	Gln	Arg	Leu	Gly	Phe	Thr	Tyr	Leu	Arg	Leu	Lys
		180						185				190			
Asp	Asn	Tyr	Met	Glu	Ile	Leu	Asn	Arg	Glu	Asn	His	Ile	Glu	Arg	Phe
		195				200					205				
Glu	Leu	Leu	Glu	Ile	Leu	Ser	Phe	Asp	Ser	Val	Arg	Arg	Arg	Met	Ser
	210					215					220				
Val	Ile	Val	Lys	Ser	Ala	Thr	Gly	Glu	Ile	Tyr	Leu	Phe	Cys	Lys	Gly
225				230					235					240	
Ala	Asp	Ser	Ser	Ile	Phe	Pro	Arg	Val	Ile	Glu	Gly	Lys	Val	Asp	Gln
			245					250					255		
Ile	Arg	Ala	Arg	Val	Glu	Arg	Asn	Ala	Val	Glu	Gly	Leu	Arg	Thr	Leu
		260					265					270			
Cys	Val	Ala	Tyr	Lys	Arg	Leu	Ile	Gln	Glu	Glu	Tyr	Glu	Gly	Ile	Cys

275 280 285  
 Lys Leu Leu Gln Ala Ala Lys Val Ala Leu Gln Asp Arg Glu Lys Lys  
 290 295 300  
 Leu Ala Glu Ala Tyr Glu Gln Ile Glu Lys Asp Leu Thr Leu Leu Gly  
 305 310 315 320  
 Ala Thr Ala Val Glu Asp Arg Leu Gln Glu Lys Ala Ala Asp Thr Ile  
 325 330 335  
 Glu Ala Leu Gln Lys Ala Gly Ile Lys Val Trp Val Leu Thr Gly Asp  
 340 345 350  
 Lys Met Glu Thr Ala Ala Ala Thr Cys Tyr Ala Cys Lys Leu Phe Arg  
 355 360 365  
 Arg Asn Thr Gln Leu Leu Glu Leu Thr Thr Lys Arg Ile Glu Glu Gln  
 370 375 380  
 Ser Leu His Asp Val Leu Phe Glu Leu Ser Lys Thr Val Leu Arg His  
 385 390 395 400  
 Ser Gly Ser Leu Thr Arg Asp Asn Leu Ser Gly Leu Ser Ala Asp Met  
 405 410 415  
 Gln Asp Tyr Gly Leu Ile Ile Asp Gly Ala Ala Leu Ser Leu Ile Met  
 420 425 430  
 Lys Pro Arg Glu Asp Gly Ser Ser Gly Asn Tyr Arg Glu Leu Phe Leu  
 435 440 445  
 Glu Ile Cys Arg Ser Cys Ser Ala Val Leu Cys Cys Arg Met Ala Pro  
 450 455 460  
 Leu Gln Lys Ala Gln Ile Val Lys Leu Ile Lys Phe Ser Lys Glu His  
 465 470 475 480  
 Pro Ile Thr Leu Ala Ile Gly Asp Gly Ala Asn Asp Val Ser Met Ile  
 485 490 495  
 Leu Glu Ala His Val Gly Ile Gly Val Ile Gly Lys Glu Gly Arg Gln  
 500 505 510  
 Ala Ala Arg Asn Ser Asp Tyr Ala Ile Pro Lys Phe Lys His Leu Lys  
 515 520 525  
 Lys Met Leu Leu Val His Gly His Phe Tyr Tyr Ile Arg Ile Ser Glu  
 530 535 540  
 Leu Val Gln Tyr Phe Phe Tyr Lys Asn Val Cys Phe Ile Phe Pro Gln  
 545 550 555 560  
 Phe Leu Tyr Gln Phe Phe Cys Gly Phe Ser Gln Gln Thr Val His Asp  
 565 570 575  
 Thr Ala Tyr Leu Thr Leu Tyr Asn Ile Ser Phe Thr Ser Leu Pro Ile  
 580 585 590  
 Leu Leu Tyr Ser Leu Met Glu Gln His Val Gly Ile Asp Val Leu Lys  
 595 600 605  
 Arg Asp Pro Thr Leu Tyr Arg Asp Val Ala Lys Asn Ala Leu Leu Arg  
 610 615 620  
 Trp Arg Val Phe Ile Tyr Trp Thr Leu Leu Gly Leu Phe Asp Ala Leu  
 625 630 635 640  
 Val Phe Phe Phe Gly Ala Tyr Phe Val Phe Glu Asn Thr Thr Val Thr  
 645 650 655  
 Ser Asn Gly Gln Ile Phe Gly Asn Trp Thr Phe Gly Thr Leu Val Phe  
 660 665 670  
 Thr Val Met Val Phe Thr Val Thr Leu Lys Leu Ala Leu Asp Thr His  
 675 680 685  
 Tyr Trp Thr Trp Ile Asn His Phe Val Ile Trp Gly Ser Leu Leu Phe  
 690 695 700  
 Tyr Val Val Phe Ser Leu Leu Trp Gly Gly Val Ile Trp Pro Phe Leu



705		710		715		720									
Asn	Tyr	Gln	Arg	Met	Tyr	Tyr	Val	Phe	Ile	Gln	Met	Leu	Ser	Ser	Gly
		725					730					735			
Pro	Ala	Trp	Leu	Ala	Ile	Val	Leu	Leu	Val	Thr	Ile	Ser	Leu	Leu	Pro
		740					745					750			
Asp	Val	Leu	Lys	Lys	Val	Leu	Cys	Arg	Gln	Leu	Trp	Pro	Thr	Ala	Thr
		755					760					765			
Glu	Arg	Val	Gln	Thr	Lys	Ser	Gln	Cys	Leu	Ser	Val	Glu	Gln	Ser	Thr
		770				775					780				
Ile	Phe	Met	Leu	Ser	Gln	Thr	Ser	Ser	Ser	Leu	Ser	Phe			
785			790							795					

&lt;210&gt; 4265

&lt;211&gt; 2422

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4265

```

nnaggcgggc ctcgcgggtc cgggagcgcg gcgagacga tgcctgagat cagagtcacg
60
cccttggggg ccggccagga cgtgggccga agctgcatcc tggctccat tgcgggcaag
120
aatgtcatgc tggactgtgg aatgcacatg ggcttcaatg acgaccgacg cttccctgac
180
ttctcctaca tcaccagaa cgcccgcta acagacttcc tggactgtgt gatcattagc
240
cacttccacc tggaccactg cggggcactc cctacttca gcgagatggt gggctacgac
300
ggccccatct acatgactca cccacccag gccatctgcc ccatcttgct ggaggactac
360
cgcaagatcg ccgtagacaa gaagggcgag gccaaacttct tcacctcca gatgatcaaa
420
gactgcatga agaaggtggt ggctgtccac ctccaccaga cgggccaggt agatgatgag
480
ctggagatca aggcctacta tgcaggccac gtgctggggg cagccatgtt ccagattaaa
540
gtgggctcag agtctgtggt ctacacgggt gattataaca tgacccaga ccgacactta
600
ggagctgctt ggattgacaa gtgccgccc aacctgtca tcacagagtc cacgtacgcc
660
acgaccatcc gtgactcaa gcgtgccgg gagcgagact tcctgaagaa agtccacgag
720
accgtggagc gtggtgggaa ggtgctgata cctgtgttcg cgctgggccc cgcccaggag
780
ctctgcatcc tcctggagac cttctgggag cgcattgaacc tgaaggtgcc catctacttc
840
tccacggggc tgaccgagaa ggccaaccac tactacaagc tgttcatccc ctggaccaac
900
cagaagatcc gcaagacttt tgtgcagagg aacatgtttg agttcaagca catcaaggcc
960
ttcgaccggg cttttgctga caaccagga ccgatggttg tgtttgccac gccaggaatg
1020
ctgcacgctg ggcagtcctt gcagatcttc cggaaatggg ccggaaacga aaagaacatg
1080

```

gtcatcatgc ccggtactg cgtgcagggc accgtcggcc acaagatcct cagcgggcag  
1140  
cggaagctcg agatggaggg ggggcagggtg ctggagggtca agatgcagggt ggagtacatg  
1200  
tcattcagcg cacacgcgga cgccaagggc atcatgcagc tgggtgggcca ggcagagccg  
1260  
gagagcgtgc tgctggtgca tggcgaggcc aagaagatgg agttcctgaa gcagaagatc  
1320  
gagcaggagc tccgggtcaa ctgctacatg cgggccaatg gcgagacgggt gacgctgccc  
1380  
acaagcccca gcatccccgt aggcattctcg ctggggctgc tgaagcggga gatggcgag  
1440  
gggtgctcc ctgaggccaa gaagcctcgg ctctgcacg gcaccctgat catgaaggac  
1500  
agcaacttcc ggctggtgtc ctgagagcaa gccctcaaag agctgggtct ggctgagcac  
1560  
cagctgcgct tcacctgccg cgtgcacctg catgacacac gcaaggagca ggagacggca  
1620  
ttgcgcgtct acagccacct caagagcgtc ctgaaggacc actgtgtgca gcacctccc  
1680  
gacggctctg tgactgtgga gtccgtctc ctccaggccg ccgccccttc tgaggacca  
1740  
ggcaccaagg tgctgctgggt ctctggacc taccaggacg aggagctggg gagcttcctc  
1800  
acatctctgc tgaagaagg cctccccag gcccccagct gaggccggca actcaccag  
1860  
ccgccacctc tgccctctcc cagctggaca gaccctgggc ctgcattca ggactgtggg  
1920  
tgccctgggt gaacagacc tgcaggctcc atccctgggg acagaggcct tgtgtcacct  
1980  
gcctgccag gcagctgttt gcagctgaag aaacaaactg gtctccaggc tgtcttgct  
2040  
ttattcttg ttagggcagg tggctctaga cagcagtttc cagtaaaagc tgaacaaaag  
2100  
actacttggt actctcttct tgggtgtacat ggctgtgtcc tgcactgtgc cccatcccgc  
2160  
ctgggacaga gacgggcac caggggtgctg ggaccggggc agggaggcta ctgtggagac  
2220  
caggcagcag tgctgtgggc cccaagcagc tgtgactgcc ctggcttgac cagcacaggg  
2280  
ttgggcctgg tgtggcctaa ctttggttg agtgtccagg gtcattcgtg gctcccgaac  
2340  
tgtggccctc gcagggtgca ggaggcagca ccgaggttcc cgtacagcac tgacttgagg  
2400  
aataagccgt gggctggggc ta  
2422

&lt;210&gt; 4266

&lt;211&gt; 613

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4266

Xaa Gly Gly Pro Arg Gly Ser Gly Ser Ala Ala Glu Thr Met Pro Glu

1	5	10	15
Ile Arg Val Thr Pro Leu Gly Ala Gly Gln Asp Val Gly Arg Ser Cys			
	20	25	30
Ile Leu Val Ser Ile Ala Gly Lys Asn Val Met Leu Asp Cys Gly Met			
	35	40	45
His Met Gly Phe Asn Asp Asp Arg Arg Phe Pro Asp Phe Ser Tyr Ile			
	50	55	60
Thr Gln Asn Gly Arg Leu Thr Asp Phe Leu Asp Cys Val Ile Ile Ser			
	65	70	75
His Phe His Leu Asp His Cys Gly Ala Leu Pro Tyr Phe Ser Glu Met			
	85	90	95
Val Gly Tyr Asp Gly Pro Ile Tyr Met Thr His Pro Thr Gln Ala Ile			
	100	105	110
Cys Pro Ile Leu Leu Glu Asp Tyr Arg Lys Ile Ala Val Asp Lys Lys			
	115	120	125
Gly Glu Ala Asn Phe Phe Thr Ser Gln Met Ile Lys Asp Cys Met Lys			
	130	135	140
Lys Val Val Ala Val His Leu His Gln Thr Val Gln Val Asp Asp Glu			
	145	150	155
Leu Glu Ile Lys Ala Tyr Tyr Ala Gly His Val Leu Gly Ala Ala Met			
	165	170	175
Phe Gln Ile Lys Val Gly Ser Glu Ser Val Val Tyr Thr Gly Asp Tyr			
	180	185	190
Asn Met Thr Pro Asp Arg His Leu Gly Ala Ala Trp Ile Asp Lys Cys			
	195	200	205
Arg Pro Asn Leu Leu Ile Thr Glu Ser Thr Tyr Ala Thr Thr Ile Arg			
	210	215	220
Asp Ser Lys Arg Cys Arg Glu Arg Asp Phe Leu Lys Lys Val His Glu			
	225	230	235
Thr Val Glu Arg Gly Gly Lys Val Leu Ile Pro Val Phe Ala Leu Gly			
	245	250	255
Arg Ala Gln Glu Leu Cys Ile Leu Leu Glu Thr Phe Trp Glu Arg Met			
	260	265	270
Asn Leu Lys Val Pro Ile Tyr Phe Ser Thr Gly Leu Thr Glu Lys Ala			
	275	280	285
Asn His Tyr Tyr Lys Leu Phe Ile Pro Trp Thr Asn Gln Lys Ile Arg			
	290	295	300
Lys Thr Phe Val Gln Arg Asn Met Phe Glu Phe Lys His Ile Lys Ala			
	305	310	315
Phe Asp Arg Ala Phe Ala Asp Asn Pro Gly Pro Met Val Val Phe Ala			
	325	330	335
Thr Pro Gly Met Leu His Ala Gly Gln Ser Leu Gln Ile Phe Arg Lys			
	340	345	350
Trp Ala Gly Asn Glu Lys Asn Met Val Ile Met Pro Gly Tyr Cys Val			
	355	360	365
Gln Gly Thr Val Gly His Lys Ile Leu Ser Gly Gln Arg Lys Leu Glu			
	370	375	380
Met Glu Gly Arg Gln Val Leu Glu Val Lys Met Gln Val Glu Tyr Met			
	385	390	395
Ser Phe Ser Ala His Ala Asp Ala Lys Gly Ile Met Gln Leu Val Gly			
	405	410	415
Gln Ala Glu Pro Glu Ser Val Leu Leu Val His Gly Glu Ala Lys Lys			
	420	425	430
Met Glu Phe Leu Lys Gln Lys Ile Glu Gln Glu Leu Arg Val Asn Cys			

435                      440                      445  
 Tyr Met Pro Ala Asn Gly Glu Thr Val Thr Leu Pro Thr Ser Pro Ser  
 450                      455                      460  
 Ile Pro Val Gly Ile Ser Leu Gly Leu Leu Lys Arg Glu Met Ala Gln  
 465                      470                      475                      480  
 Gly Leu Leu Pro Glu Ala Lys Lys Pro Arg Leu Leu His Gly Thr Leu  
 485                      490                      495  
 Ile Met Lys Asp Ser Asn Phe Arg Leu Val Ser Ser Glu Gln Ala Leu  
 500                      505                      510  
 Lys Glu Leu Gly Leu Ala Glu His Gln Leu Arg Phe Thr Cys Arg Val  
 515                      520                      525  
 His Leu His Asp Thr Arg Lys Glu Gln Glu Thr Ala Leu Arg Val Tyr  
 530                      535                      540  
 Ser His Leu Lys Ser Val Leu Lys Asp His Cys Val Gln His Leu Pro  
 545                      550                      555                      560  
 Asp Gly Ser Val Thr Val Glu Ser Val Leu Leu Gln Ala Ala Ala Pro  
 565                      570                      575  
 Ser Glu Asp Pro Gly Thr Lys Val Leu Leu Val Ser Trp Thr Tyr Gln  
 580                      585                      590  
 Asp Glu Glu Leu Gly Ser Phe Leu Thr Ser Leu Leu Lys Lys Gly Leu  
 595                      600                      605  
 Pro Gln Ala Pro Ser  
 610

&lt;210&gt; 4267

&lt;211&gt; 2230

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4267

gccggcgcg ccggttgggca ctgggggacg cgggcgcgctc aggtgaagac tgggggctgc  
 60  
 aggcgcgcta ggagaactat gccattttttg ggtcaggact ggagatctcc tggatggagt  
 120  
 tggattaaga cagaagatgg ctggaagaga tgtgaatctt gtagtcagaa acttgaaaga  
 180  
 gagaataacc attgtaacat cagtcacagc attatcttaa atagtgaaga tggagaaata  
 240  
 ctcaataatg aagagcatga atatgcatcc aaaaaagga aaaaggacca ttttagaaat  
 300  
 gacacaaata ctcaaagttt ttatcatgaa aaatggatct atgtccataa agaaagcaca  
 360  
 aaagaaaggc atggctattg caccctggga gaaaccttta atcggttaga cttctcaagt  
 420  
 gcaattcaag atatccgaag gttcaattat gtgggtcaaac tgttgacagct aattgcaaaa  
 480  
 tcccagttaa cttcattgag tggcgtggca cagaagaatt acttcaacat tttggataaa  
 540  
 atcgttcaaa aggttcttga tgaccaccac aatcctcgct taatcaaaga tcttctgcaa  
 600  
 gacctaagct ctaccctcnt gcattcttat tagaggagta ggaagtctg tattagtggg  
 660  
 aaacatcaat atttggattt gccgattaga aactattctc gcctggcaac aacagctaca  
 720

ggatcttcag atgactaagc aagtaacaat ggcctcacc tcagtgcact tcctctgcac  
780  
atgctgaaca acatcctata ccggttctca gacggatggg acatcatcac cttaggccag  
840  
gtgaccccca cgttgatat gcttagtgaa gacagacagc tgtggaagaa gctttgtcag  
900  
taccattttg ctgaaaagca gttttgtaga catttgatcc tttcagaaaa aggtcatatt  
960  
gaatggaagt tgatgtactt tgcacttcag aaacattacc cagcgaagga gcagtacgga  
1020  
gacacactgc atttctgtcg gcaactgcagc attctctttt ggaaggactc aggacacccc  
1080  
tgcacgccc cgacctgac agctgcttca cgcgtgtctc cgcagcactt catcgacctc  
1140  
ttcaagtttt aagggtgcc cctgccatcc ctattggaga ttgtgaatcc tgetgtctgt  
1200  
gcagggctca tagtgagtgt tctgtgaggt ggggtggagac tcctcggaag cccctgcttc  
1260  
cagaaagcct ggaagaact gcccttctgc aaagggggga ctgcatggtt gcattttcat  
1320  
cactgaaagt cagaggccaa ggaaatcatt tctacttctt taaaaactcc ttctaagcat  
1380  
attaaaatgt gaaattttgc gtactctctc tctctatata tatagttcaa aaatacttta  
1440  
ggtggtcagc tccacattct ttgttgacgt gacactaacg gccataata tgetttctaa  
1500  
ttatcaaatt atagtttccc aattgggaaa ctaattgggg gtgggttaca aaacatttga  
1560  
tccttgtaaa tacattgtac agaataattt ttttttctca aaatgcattt taactactac  
1620  
attggctgtg ccaaatgagt cctctttgaa tagaaagtga acccagggca atgacagcca  
1680  
ttcttgctt agggattatg gatcggggta tgaattgtgc acacgcagcc caacaacggg  
1740  
cagtggctc tgtggctcct aggcattccag cacagggtctt ggcagggcac ccctgctggg  
1800  
gttgggggct ggtctgtgca taatcctgga ctgtgatggg aacagcccag tgcagtctaa  
1860  
acttcaattg tgttgaaact actttaatag acaaagtaat aaatcatgtt tatctattga  
1920  
tttaaaactc atcagttttg catcctactg agaaatgtta gtgattttga tacttaaatc  
1980  
cttaaaagat tgcttcgttt ttaaaataac gcatgtccat tttagaaaat tagaaaatca  
2040  
gtccaccac ccaaagatta ttgtgcatgc tgaaaagagt atgaaaaatc ccctcagcag  
2100  
gcataggata gaaacgtatt gttgtatatt tccatttttg aataggggtca aggagcctaa  
2160  
gcaaatcatt tctacttttt cctttaagca taataataaa agtatacttt tatggcggtta  
2220  
taaaacaaca  
2230

&lt;210&gt; 4268

&lt;211&gt; 210

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4268

Ala Gly Ala Pro Val Gly His Trp Gly Thr Arg Ala Arg Gln Val Lys  
 1 5 10 15  
 Thr Gly Gly Cys Arg Arg Ala Arg Arg Thr Met Pro Phe Leu Gly Gln  
 20 25 30  
 Asp Trp Arg Ser Pro Gly Trp Ser Trp Ile Lys Thr Glu Asp Gly Trp  
 35 40 45  
 Lys Arg Cys Glu Ser Cys Ser Gln Lys Leu Glu Arg Glu Asn Asn His  
 50 55 60  
 Cys Asn Ile Ser His Ser Ile Ile Leu Asn Ser Glu Asp Gly Glu Ile  
 65 70 75 80  
 Leu Asn Asn Glu Glu His Glu Tyr Ala Ser Lys Lys Arg Lys Lys Asp  
 85 90 95  
 His Phe Arg Asn Asp Thr Asn Thr Gln Ser Phe Tyr His Glu Lys Trp  
 100 105 110  
 Ile Tyr Val His Lys Glu Ser Thr Lys Glu Arg His Gly Tyr Cys Thr  
 115 120 125  
 Leu Gly Glu Thr Phe Asn Arg Leu Asp Phe Ser Ser Ala Ile Gln Asp  
 130 135 140  
 Ile Arg Arg Phe Asn Tyr Val Val Lys Leu Leu Gln Leu Ile Ala Lys  
 145 150 155 160  
 Ser Gln Leu Thr Ser Leu Ser Gly Val Ala Gln Lys Asn Tyr Phe Asn  
 165 170 175  
 Ile Leu Asp Lys Ile Val Gln Lys Val Leu Asp Asp His His Asn Pro  
 180 185 190  
 Arg Leu Ile Lys Asp Leu Leu Gln Asp Leu Ser Ser Thr Leu Xaa His  
 195 200 205  
 Ser Tyr  
 210

&lt;210&gt; 4269

&lt;211&gt; 5748

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4269

gcttccttca cagggggaag aaccaacaac gcagagaccg tgggaaagag cccagcctat  
 60  
 cgaaggtgct caatgaacag gagccgcgct atcgccaga gaggacgcgt gctgccgcct  
 120  
 cccgccctc ttgacacgac gaacctggcc ggccgcagaa cgctccaggg ccgagcgaag  
 180  
 atggcctcgg tgccggtgta ttgcctctgc cggtgcctt acgatgtgac ccgcttcacg  
 240  
 atcgagtgtg acatgtgcca ggactgggtt catggcagtt gtgttggtgt tgaagaggag  
 300  
 aaggctgctg acattgacct ctaccactgc cccaactgtg aagtcttgca tgggccctcc  
 360  
 attatgaaaa aacgccgtgg atcttcaaag ggcatgata cacacaagg gaaaccagt  
 420

aagaccgga gccctacgtt cgtcagagag ctccggagta ggacttttga cagctcagat  
480  
gaagtgattc tgaagcccac tggaaatcaa ctgaccgtgg aattcctgga agaaaatagc  
540  
ttcagtgtgc ccatcctggt cctgaagaag gatgggttgg gcatgacgct gccctcgcca  
600  
tcattcactg tgagggatgt tgaacactat gttggttctg acaaagagat tgatgtgatt  
660  
gatgtgaccc gccaggctga ctgcaagatg aagcttggtg attttgtgaa atactattac  
720  
agcgggaaga gggagaaagt cctcaatgtc attagtttgg aattctctga taccagactt  
780  
tctaaccttg tggagacacc gaagattgtt cgaaagctgt catgggtcga aaacttgtgg  
840  
ccagaggaat gtgtctttga gagaccaat gtacagaagt actgcctcat gagtgtgcga  
900  
gatagctata cagactttca cattgacttt ggtggcacct ctgtctggta ccatgtactc  
960  
aagggtgaaa agatcttcta cctgatccgc ccaacaaatg ccaatctgac tctctttgag  
1020  
tgctggagca gttcctctaa tcagaatgag atgttctttg gggaccaggt ggacaagtgc  
1080  
tacaagtgtt cgttaagca aggacagaca cttttcatte ccacagggtg gatccatgct  
1140  
gtgctgacgc ctgtggactg ccttgccctt ggagggaact tcttacacag ccttaacatc  
1200  
gagatgcagc tcaaagccta tgagattgag aagcggctga gcacagcaga cctcttcaga  
1260  
ttccccaact ttgagaccat ctgttggtat gtgggaaagc acatcctgga catctttcgc  
1320  
ggtttgagag agaacaggag acaccctgcc tcctacctgg tccatggtgg caaagccttg  
1380  
aacttggcct ttagagcctg gacaaggaaa gaagctctgc cagaccatga ggatgagatc  
1440  
ccggagacag tgccaaccgt acagctcatt aaagatctgg ccaggagat ccgcctggtg  
1500  
gaagacatct tccaacagaa cgttggggaag acgagcaata tctttgggct gcagaggatc  
1560  
ttcccagcgc gctccattcc cctaaccagg ccagcccatt ccacttcagt gtccatgtcc  
1620  
aggctgtcac tgccctccaa aaatggttca aagaagaaag gcctgaagcc caaggaactc  
1680  
ttcaagaagg cagagcgaaa gggcaaggag agttcagcct tggggcctgc tggccagttg  
1740  
agctataatc tcatggacac atacagtcatt caggcactga agacaggctc tttccagaaa  
1800  
gcaaagttca acatcactgg tgcctgcttg aatgactcag atgacgactc accagacttg  
1860  
gaccttgatg gaaatgagag cccattggcc ctattgatgt ctaacggcag tacgaaaagg  
1920  
gtgaagagtt tatccaaatc tcggcgaacc aagatagcaa agaaggtaga caaggctagg  
1980  
ctgatggcag aacaggtgat ggaagacgaa tttgacttgg attcagatga tgagctgcag  
2040

attgacgaga gattgggaaa ggagaaggcg accctgataa taagaccaa atttccccg  
2100  
aaattgcccc gtgcgaagcc ttgctctgac cccaaccgag ttcgtgaacc aggagaagtt  
2160  
gagtttgaca ttgaggagga ctatacaaca gatgaggaca tgggtggaagg ggttgaaggc  
2220  
aagcttgga atggtagtgg cgctgggtggc attcttgatc tgctcaaggc cagcaggcag  
2280  
gtggggggac ctgactatgc tgccctcacc gagggcccag cttctcccag cactcaggag  
2340  
gccatccagg gcatgctgtg catggccaac ctgcagtcct catcgtcctc accggtacc  
2400  
tctagcctgc aggctggtg gactggggga caggatcgaa gcagtgggag ctccagcagt  
2460  
gggctgggca cagtgtctaa cagtctgct tcccagcgca cccagggaa gcggcccatc  
2520  
aagcgccag catactggag aaccgagagc gaggaggagg aggagaacgc cagtctggat  
2580  
gaacaggaca gcttgggagc gtgcttcaag gatgcagagt atatctatcc ttcactggag  
2640  
tctgatgat atgacctgc tttgaaatct cgacccaaga aaaagaagaa ttcagatgat  
2700  
gctccatgga gtctaaagc ccgctgacc ccaactctgc cgaagcagga ccgtcctgtg  
2760  
cgtgagggga cccgggtagc ctctattgag acaggtttgg ctgcagcagc tgcaaagctg  
2820  
gcccagcagg agctacagaa ggcccaaaag aagaaatata tcaagaagaa gcctttgctg  
2880  
aaggaggtag aacagcctcg ccctcaagac tccaatctca gtctgacagt accagcccc  
2940  
actgtggctg ccacaccaca acttgtcacc tcctctcac ccctgcctcc tcctgagcct  
3000  
aaacaagagg ccctgtcagg aagtctcgct gaccatgagt acaccgctcg tcccaatgcc  
3060  
tttggcatgg cccaggcaaa ccgcagcacc acacctatgg ccccgggtgt cttcttgacc  
3120  
cagcgggccc cttcagttgg ctcccagagc aatcaggcag gacaaggaaa gcgtcccaaa  
3180  
aagggcctgg ccacagcaaa gcagagactc ggccgtatcc tgaaaatcca cagaaatggc  
3240  
aaactacttc tgtgagccct cctgtgtccc acccctcacc cctttacccc cattgccttc  
3300  
tccattgtca actcttgggg cactcctgga tcctatctgc cctggacaag gtgctgaggt  
3360  
gcattgtcct gctttcttgg gacttaccaa aggcacggac cctccaccg actccttcta  
3420  
gttcccttcc ccactttcac tagagcatcc tgcctgcctt ctccactgag gagcaggtaa  
3480  
atgggagagg tttccagctg actagaacct tcttttctac tcgtccaaac cactcccgtc  
3540  
acctgccttg tctgttcttt attcttcac ccccgctaga gctggaaggc aggatgagga  
3600  
gaggtatgaa ggagcctgag ccatgaagtg ggaagcccag tgcttgacac tttctgcaac  
3660



tctagcccta tatccagaag cctgcccacc tccacccatt ctgtttgccc catttcccca  
3720  
gtccagtggga catgccccac ctccagactt gctcatggga gaaggctgtg gtctctgccc  
3780  
cctcttgcca aatgcttcat ggaaatgaag aggaaggcct agagcctcct tcctgccccca  
3840  
ctgtggggcca tttccagaag tggcctagaa atgccaaactt cacttacctt tcaaaagaaa  
3900  
gggtgattcct atcacttgtc aaggtaggga gaggtcagat gcccaagcct ttgaccacgg  
3960  
ttttgtagcc tgttgaggga agctactttt agctggctac acatgaggcc acttgtttta  
4020  
gggtgagctc cagggatttg cctggatttt gaaatcatgt agaacattat ccacgtggct  
4080  
gtggctgtgg ctgtggctgg gccctggcag gtggaaaacc atctcccaga aacctgaaag  
4140  
cacctgccaa tgacgcagat aacctggcc ctacagcctg cttgctccgc ctataccaca  
4200  
gagcacagcc tggacattat ggaggggtgtg gcgggacggc ccacacctgg gtcctccatc  
4260  
gggaactttt catgcttctt tctccacctg aggtcttggg ctgaagaaga cctcaggact  
4320  
cacatcttca ctectgggcc tttgcacttc cagacgacag gtcacgttc aagcagaatg  
4380  
cagacaggcc attcacgagc ccaagttgaa gagaagagac gcccatccgt gaaggagcag  
4440  
accatccatc cgatcctccc ctccccctgt ccttccctcg tggattgtct ccattgtcca  
4500  
gacagtgccc ccacctccca ccgccttgcc tcaactggcaa tctggactcg atggagaaca  
4560  
tccccccacc tccatttgge actacccaag tggagtgtac ccttgcctt tccacctgta  
4620  
ccaccactc caacctcacc ccagcttgcc caatgcttct ggggaattta atagctacca  
4680  
tgcaggccac agggaaattg tgaggcttct tttgtcatct ttgtatctcc agtttgtctt  
4740  
tcttttctcc atagccctgc ctctactttc cttccttgga atcaggggtt cctttagccc  
4800  
atttgcttct tctaccttg ggaccccagg ggccaagcag ttctccatct agtcacacca  
4860  
aaggcaaaaa gcctggctac ctcccccta gcacgtgagt ccctactccc ctccccctg  
4920  
tttctgcca gctttgctta ttttggggat ttcaaggcag cagagggtag tgaggggaga  
4980  
gcaggagaag cctctgtcct gtataggcaa ctgcctgact atgcggtgac tgctgtaacc  
5040  
aagatcaggt cccagccct tttgtccatt aacaccctt cttgatcttt caaaggcagc  
5100  
taattgctag caaatcccc cgattccggc cttttccctc tatttctttg ttagaagttt  
5160  
tctgtggagc tgaaaccag cctctgtttg actgggttct atttagctta gttgggttct  
5220  
tagagccccc tgtttgttgt tttgtgttgt ttccaatgaa aagcaagttt accctcagag  
5280

ttatgctttt ccaaagaggc tgatgtcttt gtttttgttt tttttaatgt ttcaggttct  
 5340  
 aagtgaagtg agttggggag gggttgggag tgtagtaat caagggttag aacaccatga  
 5400  
 gatagttacc cctgatctcc agtccctagc tgggggctgg acagggggaa gggagagagg  
 5460  
 atttctattc acctttaata tatttttaca aaaaaagcaa acaatttaaa aacaagccca  
 5520  
 ccgcttctgt acatgtctaa atatattttt agaagtgggt aggattgtga atttctgatg  
 5580  
 cagggccttt ttataaatag gttagggtag catcattcag acttctctgt tgtttttgtc  
 5640  
 cctgtctttt tcttatgttg tgttactaat gtaatttata ttttttttag atcctccctt  
 5700  
 tcctatagag ataaaagtga tttatcttgg caaaaaaaaa aaaaaaaaa  
 5748

&lt;210&gt; 4270

&lt;211&gt; 1084

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4270

Ala	Ser	Phe	Thr	Gly	Gly	Arg	Thr	Asn	Asn	Ala	Glu	Thr	Val	Gly	Lys
1				5				10						15	
Ser	Pro	Ala	Tyr	Arg	Arg	Cys	Ser	Met	Asn	Arg	Ser	Arg	Ala	Ile	Val
		20						25					30		
Gln	Arg	Gly	Arg	Val	Leu	Pro	Pro	Ala	Pro	Leu	Asp	Thr	Thr	Asn	
		35				40					45				
Leu	Ala	Gly	Arg	Arg	Thr	Leu	Gln	Gly	Arg	Ala	Lys	Met	Ala	Ser	Val
	50					55				60					
Pro	Val	Tyr	Cys	Leu	Cys	Arg	Leu	Pro	Tyr	Asp	Val	Thr	Arg	Phe	Met
65				70					75					80	
Ile	Glu	Cys	Asp	Met	Cys	Gln	Asp	Trp	Phe	His	Gly	Ser	Cys	Val	Gly
			85					90						95	
Val	Glu	Glu	Glu	Lys	Ala	Ala	Asp	Ile	Asp	Leu	Tyr	His	Cys	Pro	Asn
			100					105					110		
Cys	Glu	Val	Leu	His	Gly	Pro	Ser	Ile	Met	Lys	Lys	Arg	Arg	Gly	Ser
		115				120						125			
Ser	Lys	Gly	His	Asp	Thr	His	Lys	Gly	Lys	Pro	Val	Lys	Thr	Gly	Ser
		130				135				140					
Pro	Thr	Phe	Val	Arg	Glu	Leu	Arg	Ser	Arg	Thr	Phe	Asp	Ser	Ser	Asp
145					150				155					160	
Glu	Val	Ile	Leu	Lys	Pro	Thr	Gly	Asn	Gln	Leu	Thr	Val	Glu	Phe	Leu
			165					170						175	
Glu	Glu	Asn	Ser	Phe	Ser	Val	Pro	Ile	Leu	Val	Leu	Lys	Lys	Asp	Gly
		180						185					190		
Leu	Gly	Met	Thr	Leu	Pro	Ser	Pro	Ser	Phe	Thr	Val	Arg	Asp	Val	Glu
		195				200						205			
His	Tyr	Val	Gly	Ser	Asp	Lys	Glu	Ile	Asp	Val	Ile	Asp	Val	Thr	Arg
		210				215				220					
Gln	Ala	Asp	Cys	Lys	Met	Lys	Leu	Gly	Asp	Phe	Val	Lys	Tyr	Tyr	Tyr
225					230				235					240	
Ser	Gly	Lys	Arg	Glu	Lys	Val	Leu	Asn	Val	Ile	Ser	Leu	Glu	Phe	Ser

3475

675 680 685  
 Lys Ala Thr Leu Ile Ile Arg Pro Lys Phe Pro Arg Lys Leu Pro Arg  
 690 695 700  
 Ala Lys Pro Cys Ser Asp Pro Asn Arg Val Arg Glu Pro Gly Glu Val  
 705 710 715 720  
 Glu Phe Asp Ile Glu Glu Asp Tyr Thr Thr Asp Glu Asp Met Val Glu  
 725 730 735  
 Gly Val Glu Gly Lys Leu Gly Asn Gly Ser Gly Ala Gly Gly Ile Leu  
 740 745 750  
 Asp Leu Leu Lys Ala Ser Arg Gln Val Gly Gly Pro Asp Tyr Ala Ala  
 755 760 765  
 Leu Thr Glu Ala Pro Ala Ser Pro Ser Thr Gln Glu Ala Ile Gln Gly  
 770 775 780  
 Met Leu Cys Met Ala Asn Leu Gln Ser Ser Ser Ser Pro Ala Thr  
 785 790 795 800  
 Ser Ser Leu Gln Ala Trp Trp Thr Gly Gly Gln Asp Arg Ser Ser Gly  
 805 810 815  
 Ser Ser Ser Ser Gly Leu Gly Thr Val Ser Asn Ser Pro Ala Ser Gln  
 820 825 830  
 Arg Thr Pro Gly Lys Arg Pro Ile Lys Arg Pro Ala Tyr Trp Arg Thr  
 835 840 845  
 Glu Ser Glu Glu Glu Glu Asn Ala Ser Leu Asp Glu Gln Asp Ser  
 850 855 860  
 Leu Gly Ala Cys Phe Lys Asp Ala Glu Tyr Ile Tyr Pro Ser Leu Glu  
 865 870 875 880  
 Ser Asp Asp Asp Asp Pro Ala Leu Lys Ser Arg Pro Lys Lys Lys Lys  
 885 890 895  
 Asn Ser Asp Asp Ala Pro Trp Ser Pro Lys Ala Arg Val Thr Pro Thr  
 900 905 910  
 Leu Pro Lys Gln Asp Arg Pro Val Arg Glu Gly Thr Arg Val Ala Ser  
 915 920 925  
 Ile Glu Thr Gly Leu Ala Ala Ala Ala Lys Leu Ala Gln Gln Glu  
 930 935 940  
 Leu Gln Lys Ala Gln Lys Lys Lys Tyr Ile Lys Lys Lys Pro Leu Leu  
 945 950 955 960  
 Lys Glu Val Glu Gln Pro Arg Pro Gln Asp Ser Asn Leu Ser Leu Thr  
 965 970 975  
 Val Pro Ala Pro Thr Val Ala Ala Thr Pro Gln Leu Val Thr Ser Ser  
 980 985 990  
 Ser Pro Leu Pro Pro Pro Glu Pro Lys Gln Glu Ala Leu Ser Gly Ser  
 995 1000 1005  
 Leu Ala Asp His Glu Tyr Thr Ala Arg Pro Asn Ala Phe Gly Met Ala  
 1010 1015 1020  
 Gln Ala Asn Arg Ser Thr Thr Pro Met Ala Pro Gly Val Phe Leu Thr  
 1025 1030 1035 1040  
 Gln Arg Arg Pro Ser Val Gly Ser Gln Ser Asn Gln Ala Gly Gln Gly  
 1045 1050 1055  
 Lys Arg Pro Lys Lys Gly Leu Ala Thr Ala Lys Gln Arg Leu Gly Arg  
 1060 1065 1070  
 Ile Leu Lys Ile His Arg Asn Gly Lys Leu Leu Leu  
 1075 1080

&lt;210&gt; 4271

&lt;211&gt; 588

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4271

accatgtcat ttcctttgaa ctcaccggga cagcaatctg gattaaagat actacgacaa  
60

ctgactactg attttgtcca tcactacatt gttgccaata acttttcaga gcttttccat  
120

ttgctgtcct caagaaattg caaaaccaga aatcttggtta tgaaactact tttaaatatg  
180

tctgaaaatc caactgcagc cagagacatg atcaatatga aggcattggc agcattaaaa  
240

ctcatcttta accacaaaga ggcaaaagcc aatcttggtta gtggtgtggc catatttatt  
300

aacataaagg agcatatcag aaaaggctca attgtagtta ataaatatgg ccacaccact  
360

aacaagattg gcttttgcct ctttctgggt aaagatgagt tttaatgctg ccaatgcctt  
420

catattgatc atgtctctgg ctgcagttgg attttcagac atatttaaaa gtagtttcaa  
480

aacaagattt ctggttttgc aatttctga ggacagcaaa tggaaaagct ctgaaaagta  
540

attggcaaca atgtagtgat ggacaaaatc agtagtcagt tgtccgctc  
588

&lt;210&gt; 4272

&lt;211&gt; 134

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4272

Thr Met Ser Phe Pro Leu Asn Ser Pro Gly Gln Gln Ser Gly Leu Lys  
1 5 10 15

Ile Leu Arg Gln Leu Thr Thr Asp Phe Val His His Tyr Ile Val Ala  
20 25 30

Asn Asn Phe Ser Glu Leu Phe His Leu Leu Ser Ser Arg Asn Cys Lys  
35 40 45

Thr Arg Asn Leu Val Met Lys Leu Leu Leu Asn Met Ser Glu Asn Pro  
50 55 60

Thr Ala Ala Arg Asp Met Ile Asn Met Lys Ala Leu Ala Ala Leu Lys  
65 70 75 80

Leu Ile Phe Asn His Lys Glu Ala Lys Ala Asn Leu Val Ser Gly Val  
85 90 95

Ala Ile Phe Ile Asn Ile Lys Glu His Ile Arg Lys Gly Ser Ile Val  
100 105 110

Val Asn Lys Tyr Gly His Thr Thr Asn Lys Ile Gly Phe Cys Leu Phe  
115 120 125

Leu Val Lys Asp Glu Phe  
130

&lt;210&gt; 4273

&lt;211&gt; 2081

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4273

nggatggatt agccattgtt cgagtgggtg gatgggtgga tgaatagatg ggtggaggat  
60  
agataggtgg gtgtatgggt gggtaggatg attgatgcat ggatggatgg gctgcccatt  
120  
gagtaggtgc atgagtggat aaatgggtgg gtgggtaggt gaatagatgt atagatttat  
180  
aataggggga agggtaggatt ggtagatggg tagatggagg gatacattgc tgtgtggata  
240  
ggtgggtgaa tggatgaagg agggagggat gggcaggtag atggatagat tagtggatgg  
300  
atgggtggat gggctgacaa atggcttgtt cccagactgt ttgtccttgg gtggagtcac  
360  
gcaggtatct attgcagctg ggcctgaact gatattctgaa gagagaagtg gagacagcga  
420  
ccagacagat gaggatggag aacctggctc agaggcccag gccagggccc agccctttgg  
480  
cagcaaaaaa aagcgctcc tctccgtcca cgacttcgac ttcgaggagg actcagatga  
540  
ctccactcag cctcaaggtc actccctgca cctgtcctca gtccctgagg ccaggacag  
600  
cccacagtcc ctacagatg agtcctgctc agagaaggca gcccctcaca aggctgaggg  
660  
cctggaggag gctgatactg gggcctctgg gtgccactcc catccggaag agcagccgac  
720  
cagcatctca ccttccagac acggcgccct ggctgagctc tgcccgctg gaggtccca  
780  
tagggaatgg ccctggggaa actgctgctg cactcgggtc ggatgtcatc aggaatgagc  
840  
agctgcccct gcagtacttg gccgatgtgg gacacctctg atgaggaaag catccgggct  
900  
cacgtgatgg cctcccacca ttccaagcgg agaggccggg cgtcttctga gagtcagggt  
960  
ctaggtgctg gagtgcgcac ggagcncgac gtagaggagg aggccctgag gaggaagctg  
1020  
gaggagctga ccagcaacgt cagtgaccag gagaccttcg tccgaggagg aggaagccaa  
1080  
ggacgaaaat gcagagccca acagggacaa atcagttggg cctctcccc aggcggaccc  
1140  
ggacggtggc acggctgccc atcaaacc aa cagacaggaa aaaagcccca ggaccctggg  
1200  
gaccccgctc agtacaacag gaccacagat gaggagctgt cagagctgga ggacagagt  
1260  
gcagtgcagg cctcagaagt ccagcaggca gagagcgagg ttccagacat tgaatccagg  
1320  
attgcagccc tgagggccgc agggctcacg gtgaagccct cgggaaagcc ccggaggaa  
1380  
tcaaacctcc cgatatttct ccctcgagtg gctgggaaac ttggcaagag accagaggac  
1440  
ccaaatgcag acccttcaag tgaggccaag gcaatggctg tgcctatctt ctgagaagaa  
1500  
agttcagtaa ttccctgaaa agtcaaggta aagatgatga ttcttttgat cggaaatcag  
1560

tgtaccgagg ctcgctgaca cagagaaacc ccaacgcgag gaaaggaatg gccagccaca  
 1620  
 ccttcgcgaa acctgtggtg gccaccagt cctaacggga caggacagag agacagagca  
 1680  
 gccctgcaact gttttccctc caccacagcc atcctgtccc tcattggctc tgtgctttcc  
 1740  
 actatacaca gtcaccgtcc caatgagaaa caagaaggag caccctccac atggactccc  
 1800  
 acctgcaagt ggacagcgac attcagtcct gcaactgctca cctgggttta ctgatgactc  
 1860  
 ctggctgccc caccatcctc tctgatctgt gagaaacagc taagctgctg tgacttcctc  
 1920  
 ttaggacaat gttgtgtaaa tctttgaagg acacaccgaa gacctttata ctgtgatctt  
 1980  
 ttaccccttt cactcttggc tttcttatgt tgctttcatg aatggaatgg aaaaagatg  
 2040  
 actcagttaa ggcacaaaaa aaaaaaaaaa aaaagtcgag c  
 2081

<210> 4274

<211> 235

<212> PRT

<213> Homo sapiens

<400> 4274

Met	Ala	Leu	Gly	Lys	Leu	Leu	Leu	His	Ser	Gly	Arg	Met	Ser	Ser	Gly
1				5				10						15	
Met	Ser	Ser	Cys	Pro	Cys	Ser	Thr	Trp	Pro	Met	Trp	Asp	Thr	Ser	Asp
			20					25					30		
Glu	Glu	Ser	Ile	Arg	Ala	His	Val	Met	Ala	Ser	His	His	Ser	Lys	Arg
		35					40					45			
Arg	Gly	Arg	Ala	Ser	Ser	Glu	Ser	Gln	Gly	Leu	Gly	Ala	Gly	Val	Arg
	50					55					60				
Thr	Glu	Xaa	Asp	Val	Glu	Glu	Glu	Ala	Leu	Arg	Arg	Lys	Leu	Glu	Glu
65					70					75				80	
Leu	Thr	Ser	Asn	Val	Ser	Asp	Gln	Glu	Thr	Phe	Val	Arg	Gly	Gly	Gly
			85						90					95	
Ser	Gln	Gly	Arg	Lys	Cys	Arg	Ala	Gln	Gln	Gly	Gln	Ile	Ser	Trp	Ala
		100						105					110		
Ser	Pro	Pro	Gly	Gly	Pro	Gly	Arg	Trp	His	Gly	Cys	Pro	Ser	Asn	Gln
		115					120					125			
Gln	Thr	Gly	Lys	Lys	Pro	Gln	Asp	Pro	Gly	Asp	Pro	Val	Gln	Tyr	Asn
	130					135					140				
Arg	Thr	Thr	Asp	Glu	Glu	Leu	Ser	Glu	Leu	Glu	Asp	Arg	Val	Ala	Val
145				150					155					160	
Thr	Ala	Ser	Glu	Val	Gln	Gln	Ala	Glu	Ser	Glu	Val	Ser	Asp	Ile	Glu
			165					170						175	
Ser	Arg	Ile	Ala	Ala	Leu	Arg	Ala	Ala	Gly	Leu	Thr	Val	Lys	Pro	Ser
		180					185						190		
Gly	Lys	Pro	Arg	Arg	Lys	Ser	Asn	Leu	Pro	Ile	Phe	Leu	Pro	Arg	Val
	195						200					205			
Ala	Gly	Lys	Leu	Gly	Lys	Arg	Pro	Glu	Asp	Pro	Asn	Ala	Asp	Pro	Ser
	210					215					220				
Ser	Glu	Ala	Lys	Ala	Met	Ala	Val	Pro	Ile	Phe					

225

230

235

&lt;210&gt; 4275

&lt;211&gt; 874

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4275

atgcagggtgg ccctgggtgc acatctacga gatgccaggc gcgggcagag gctccgctca

60

ggggcgcacg tagtggtcac tggaccccc aatgcgggca agagcagcct agtgaacctg

120

ctcagtcgga agcctgtgtc catcgtgtcc ccggagccag ggaccaccgc tgacgtgctg

180

gagaccccag tcgacctggc cggatttcct gtgctgctga gcgacacggc tgggttgctg

240

gagggcgctgg ggcccgtgga gcaggagggc gtgcggcgcg cccgggagag gctagagcag

300

gctgacctca ttctggccat gctggatgct tctgacctgg cctctccctc cagttgcaac

360

ttcctggcca ccgtcgtagc ctctgtggga gccagagcc ccagtgcag cagccagcgc

420

ctcctcctgg tgetgaacaa gtcggacctg ctgtccccgg agggcccagg tcccggctct

480

gacctgcccc cgcacctgct gctgtcctgt ctgacgggag aggggctgga cggcctcctg

540

gagggcgctga ggaaggagct agctgcagtg tgtggggacc cgtccacaga tccccgctg

600

ctgacccgag caaggcacca gcaccacctc cagggttgcc tggatgcctt cggccactac

660

aagcagtcaa aagacctggc cctggcggca gaggcgctgc ggggtggccc gggtcacctg

720

acccggctca caggtggagg ggggtaccgag gagatcctgg acatcatctt ccaggacttc

780

tgtgtgggca agtgacggga tccaggggaat tcgcacccaa gctgcgtgga gacccaggag

840

cctcggggga tctggaaaca gtttaggcca attg

874

&lt;210&gt; 4276

&lt;211&gt; 264

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4276

Met Gln Val Ala Leu Gly Ala His Leu Arg Asp Ala Arg Arg Gly Gln

1

5

10

15

Arg Leu Arg Ser Gly Ala His Val Val Val Thr Gly Pro Pro Asn Ala

20

25

30

Gly Lys Ser Ser Leu Val Asn Leu Leu Ser Arg Lys Pro Val Ser Ile

35

40

45

Val Ser Pro Glu Pro Gly Thr Thr Arg Asp Val Leu Glu Thr Pro Val

50

55

60

Asp Leu Ala Gly Phe Pro Val Leu Leu Ser Asp Thr Ala Gly Leu Arg



```

65          70          75          80
Glu Gly Val Gly Pro Val Glu Gln Glu Gly Val Arg Arg Ala Arg Glu
      85          90          95
Arg Leu Glu Gln Ala Asp Leu Ile Leu Ala Met Leu Asp Ala Ser Asp
      100          105          110
Leu Ala Ser Pro Ser Ser Cys Asn Phe Leu Ala Thr Val Val Ala Ser
      115          120          125
Val Gly Ala Gln Ser Pro Ser Asp Ser Ser Gln Arg Leu Leu Leu Val
      130          135          140
Leu Asn Lys Ser Asp Leu Leu Ser Pro Glu Gly Pro Gly Pro Gly Pro
145          150          155          160
Asp Leu Pro Pro His Leu Leu Leu Ser Cys Leu Thr Gly Glu Gly Leu
      165          170          175
Asp Gly Leu Leu Glu Ala Leu Arg Lys Glu Leu Ala Ala Val Cys Gly
      180          185          190
Asp Pro Ser Thr Asp Pro Pro Leu Leu Thr Arg Ala Arg His Gln His
      195          200          205
His Leu Gln Gly Cys Leu Asp Ala Leu Gly His Tyr Lys Gln Ser Lys
      210          215          220
Asp Leu Ala Leu Ala Ala Glu Ala Leu Arg Val Ala Arg Gly His Leu
225          230          235          240
Thr Arg Leu Thr Gly Gly Gly Thr Glu Glu Ile Leu Asp Ile Ile
      245          250          255
Phe Gln Asp Phe Cys Val Gly Lys
      260

```

&lt;210&gt; 4277

&lt;211&gt; 1070

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4277

```

cggcgggtcg ggcctccttt tgttttagga agggcacttc actccccggg cccccacctg
60
ccgcctgctg cgcctccttt ccgcggttcc ggagtggcg gggcctgcg ccggaggagg
120
aggaccaggc ccgcgggctc agctctcgcc gccagcgggc cgcagcatTT ttgaaacgtt
180
ggggttgttg gagtgttgg attttcctg gaattgagtg agaaattcag aagactgaag
240
cccaggctta ctgtctacct ttacggagg cctagccgtg agaggacaga agaaggcacg
300
tggcgaatca tgacagcgga caaagacaaa gacaaagaca aagagaagga ccgggaccga
360
gaccgggacc gagagagaga gaaaagagac aaagcaagag agagtgaaga ttcaaggcca
420
cgccggagct gtaccttga aggaggagcc aaaaattatg ctgagagtga tcacagtga
480
gacgaggaca atgacaacaa tagtgccacc gcagaggagt ccacgaagaa gaataagaag
540
aaaccaccga aaaaaagtc tcgttatgaa aggacagata ccggtgagat aacatcctac
600
atcactgaag atgatgtggt ctacagacca ggagactgtg tgtatatcga ggtcggagg
660

```

ccaaacacac cgtatttcat ctgtagcatt caagacttca aactggtcca caactcccag  
 720  
 gcctgttgca gatctccaac tctgtctttg tgtgaccccc cagcatgctc tctgccggtg  
 780  
 gcatcacagc caccacagca tctttctgaa gccgggagag ggcctgtagg gagtaagagg  
 840  
 gaccatctcc tcatgaacgt caaatggtac taccgtcaat ctgaggttcc agattctgtg  
 900  
 tatcagcatt tggttcagga tcgacataat gaaaatgact ctggaagaga acttgtcatt  
 960  
 acagacccag ttatcaagaa ccgagagctc ttcatttctg attacgttga cacttaccat  
 1020  
 gctgctgccc ttagaggga gtgtaacatt ctccattttt ctgacatatt  
 1070

<210> 4278

<211> 253

<212> PRT

<213> Homo sapiens

<400> 4278

Met	Thr	Ala	Asp	Lys	Asp	Lys	Asp	Lys	Asp	Lys	Glu	Lys	Asp	Arg	Asp	1	5	10	15
Arg	Asp	Arg	Asp	Arg	Glu	Arg	Glu	Lys	Arg	Asp	Lys	Ala	Arg	Glu	Ser	20	25	30	
Glu	Asn	Ser	Arg	Pro	Arg	Arg	Ser	Cys	Thr	Leu	Glu	Gly	Gly	Ala	Lys	35	40	45	
Asn	Tyr	Ala	Glu	Ser	Asp	His	Ser	Glu	Asp	Glu	Asp	Asn	Asp	Asn	Asn	50	55	60	
Ser	Ala	Thr	Ala	Glu	Glu	Ser	Thr	Lys	Lys	Asn	Lys	Lys	Lys	Pro	Pro	65	70	75	80
Lys	Lys	Lys	Ser	Arg	Tyr	Glu	Arg	Thr	Asp	Thr	Gly	Glu	Ile	Thr	Ser	85	90	95	
Tyr	Ile	Thr	Glu	Asp	Asp	Val	Val	Tyr	Arg	Pro	Gly	Asp	Cys	Val	Tyr	100	105	110	
Ile	Glu	Ser	Arg	Arg	Pro	Asn	Thr	Pro	Tyr	Phe	Ile	Cys	Ser	Ile	Gln	115	120	125	
Asp	Phe	Lys	Leu	Val	His	Asn	Ser	Gln	Ala	Cys	Cys	Arg	Ser	Pro	Thr	130	135	140	
Pro	Ala	Leu	Cys	Asp	Pro	Pro	Ala	Cys	Ser	Leu	Pro	Val	Ala	Ser	Gln	145	150	155	160
Pro	Pro	Gln	His	Leu	Ser	Glu	Ala	Gly	Arg	Gly	Pro	Val	Gly	Ser	Lys	165	170	175	
Arg	Asp	His	Leu	Leu	Met	Asn	Val	Lys	Trp	Tyr	Tyr	Arg	Gln	Ser	Glu	180	185	190	
Val	Pro	Asp	Ser	Val	Tyr	Gln	His	Leu	Val	Gln	Asp	Arg	His	Asn	Glu	195	200	205	
Asn	Asp	Ser	Gly	Arg	Glu	Leu	Val	Ile	Thr	Asp	Pro	Val	Ile	Lys	Asn	210	215	220	
Arg	Glu	Leu	Phe	Ile	Ser	Asp	Tyr	Val	Asp	Thr	Tyr	His	Ala	Ala	Ala	225	230	235	240
Leu	Arg	Gly	Lys	Cys	Asn	Ile	Leu	His	Phe	Ser	Asp	Ile				245	250		

&lt;210&gt; 4279

&lt;211&gt; 1963

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4279

cggccgctta cggaaaactc gctgttgga gttctggatg gcacagtcac gatgtacagt  
60  
ctgagcgctac accagcagct gggcaagatg gtgggtgtgt ctgatgatgt caacgagtat  
120  
gcaatggccc tgagagacac cgaggacaag ctacgtcggc gcccacagag gaggaaggac  
180  
atccttgacag agttgaccaa gagccagaag gttttctcag aaaagctgga ccacctgagc  
240  
cgccgtcttg cctgggtcca tgccactgtc tactcccagg agaagatgct ggacatctac  
300  
tggtctgtgc gcgtctgcct gcggaccatt gagcacggtg atcgcacagg gtctctcttt  
360  
gccttcatgc ccgagttcta cctgagcgtg gccatcaaca gctacagtgc tctcaagaat  
420  
tactttggtc ccgtgcacag catggaggag ctcccaggct atgaagagac cctgaccgcg  
480  
ctggctgcca ttctcgccaa acactttgcc gacgcacgca ttgtgggcac tgacatccga  
540  
gactcactga tgcaggccct ggccagctac gtgtgctacc cacactccct gggggctgtg  
600ccgaggagca gcgtatcgcc atgggtgagga acctcctggc gccctatgag 660  
cagcggccct gggcccagac caactggatc ctggtgcggc tctggagggg ctgtggcttc  
720  
gggtaccgct atacacggct gccacatctg ctgaaaacca aacttgagga cgccaatttg  
780  
cccagcctcc agaagccctg cccttcacac ctgctgcagc agcacatggc ggacctccta  
840  
cagcagggtc ctgatgtggc acccagcttc ctcaacagcg tcctcaatca gctcaactgg  
900  
gccttctctg aattcattgg catgatccaa gagatccagc aggtgtgctga gcgcctggag  
960  
cggaactttg tggacagccg gcagctcaag gtatgtgcca cctgctttga cctctcggtc  
1020  
agcctgctgc gtgtcttggg gatgactatc aactgggtgc ctgagatatt ccttgactgg  
1080  
accgggcta cctctgagat gctgctgcgg cgtcttgac agctgctaaa ccagggtgctg  
1140  
aaccgggtga cagctgagag gaacctgttt gatcgtgtgg tcaccctacg gctgcctggc  
1200  
ctagagagcg tggaccacta tccattctg gtggcagtga cgggcatcct ggtgcagctc  
1260  
ctggtgcgtg gccagcctc agagagagag caagccacat cagtgtcctt ggcagatccc  
1320  
tgctccagc tacgtcfaat atgctatctc ctgggacagc cagagccccc agcacctggc  
1380  
actgctctgc cagccctga ccggaagcgc ttctccctgc agagctatgc ggattatata  
1440  
agtgccgatg agctggccca agtgggaacag atgctggcgc acctgacctc tgcactgcg  
1500

caggcagcag ctgcctccct gccaccagt gaggaggacc tctgccccat ctgctatgcc  
 1560  
 caccatct ctgctgtgtt ccagccctgt ggccacaagt cctgcaaagc ctgtatcaac  
 1620  
 cagcacctga tgaacaacaa ggactgcttc ttctgcaaaa ccaccatcgt gtctgtagag  
 1680  
 gactgggaga agggagccaa tacgagtact acctcctcag ctgcctagcc ctcacagcct  
 1740  
 gtgccatcct ggaacctcca cctttgaacc cagagccagg ctggggcccta tttatgagct  
 1800  
 ccccttgccc ttctcctgta tcccacacca ccacatccaa cctccttgcc tgccctgatac  
 1860  
 ctcattgggtg ggagcccagc catggcccta attgtgctg agcttgactt tcagtcaggg  
 1920  
 ccacagttag cattaaatta ttattccata caaaaaaaaaaaa aaa  
 1963

<210> 4280

<211> 575

<212> PRT

<213> Homo sapiens

<400> 4280

Arg	Pro	Leu	Thr	Glu	Asn	Ser	Leu	Leu	Glu	Val	Leu	Asp	Gly	Thr	Val
1				5					10					15	
Met	Met	Tyr	Ser	Leu	Ser	Val	His	Gln	Gln	Leu	Gly	Lys	Met	Val	Gly
			20					25					30		
Val	Ser	Asp	Asp	Val	Asn	Glu	Tyr	Ala	Met	Ala	Leu	Arg	Asp	Thr	Glu
		35					40					45			
Asp	Lys	Leu	Arg	Arg	Cys	Pro	Lys	Arg	Arg	Lys	Asp	Ile	Leu	Ala	Glu
	50					55					60				
Leu	Thr	Lys	Ser	Gln	Lys	Val	Phe	Ser	Glu	Lys	Leu	Asp	His	Leu	Ser
65					70				75					80	
Arg	Arg	Leu	Ala	Trp	Val	His	Ala	Thr	Val	Tyr	Ser	Gln	Glu	Lys	Met
				85				90						95	
Leu	Asp	Ile	Tyr	Trp	Leu	Leu	Arg	Val	Cys	Leu	Arg	Thr	Ile	Glu	His
			100					105					110		
Gly	Asp	Arg	Thr	Gly	Ser	Leu	Phe	Ala	Phe	Met	Pro	Glu	Phe	Tyr	Leu
		115				120						125			
Ser	Val	Ala	Ile	Asn	Ser	Tyr	Ser	Ala	Leu	Lys	Asn	Tyr	Phe	Gly	Pro
	130					135					140				
Val	His	Ser	Met	Glu	Glu	Leu	Pro	Gly	Tyr	Glu	Glu	Thr	Leu	Thr	Arg
145					150					155				160	
Leu	Ala	Ala	Ile	Leu	Ala	Lys	His	Phe	Ala	Asp	Ala	Arg	Ile	Val	Gly
				165					170					175	
Thr	Asp	Ile	Arg	Asp	Ser	Leu	Met	Gln	Ala	Leu	Ala	Ser	Tyr	Val	Cys
			180					185					190		
Tyr	Pro	His	Ser	Leu	Arg	Ala	Val	Glu	Arg	Ile	Pro	Glu	Glu	Gln	Arg
		195				200						205			
Ile	Ala	Met	Val	Arg	Asn	Leu	Leu	Ala	Pro	Tyr	Glu	Gln	Arg	Pro	Trp
	210					215					220				
Ala	Gln	Thr	Asn	Trp	Ile	Leu	Val	Arg	Leu	Trp	Arg	Gly	Cys	Gly	Phe
225					230					235				240	
Gly	Tyr	Arg	Tyr	Thr	Arg	Leu	Pro	His	Leu	Leu	Lys	Thr	Lys	Leu	Glu

```
<210> 4281
<211> 507
<212> DNA
<213> Homo sapiens
```

```
<400> 4281
acgcgtgaag ggacagagct ggggccttgt caggagcccc acagttggcc aatggggccag
60
atgccccata gtctcagccc acctctcttc tgccatgagt cccctgattc tgtcctttga
120
gctgactctg agaggcagtg ggcttcccgc cagcacctcc ccctatcaca tttgtagggc
180
```

tggtttatga ggccggaagt aagcaagcac cccctcatat caacctggca cttcacaccc  
 240  
 cccatgggta tcagtggggg tgctggetgg ctggcaggca gccagagaca tttcagcagg  
 300  
 tcaggcatgg atgcaggtgg aaatgagaga ggatcagtga gcgcattcat gtcttttgag  
 360  
 tgggtctacag atgagtgggc tccagtctca aatgaggaga acaaataggg aagtaggagc  
 420  
 tcagggttct tgtgtgtctc ataggcagct gcctatccct gggtgataca gctccctggc  
 480  
 acaccattc ccaagggcac aggatcc  
 507

<210> 4282

<211> 106

<212> PRT

<213> Homo sapiens

<400> 4282

Met	Asn	Ala	Leu	Thr	Asp	Pro	Leu	Ser	Phe	Pro	Pro	Ala	Ser	Met	Pro
1				5					10					15	
Asp	Leu	Leu	Lys	Cys	Leu	Trp	Leu	Pro	Ala	Ser	Gln	Pro	Ala	Pro	Pro
			20					25					30		
Leu	Ile	Thr	Met	Gly	Gly	Val	Lys	Cys	Gln	Val	Asp	Met	Arg	Gly	Cys
		35				40					45				
Leu	Leu	Thr	Ser	Gly	Leu	Ile	Asn	Gln	Pro	Tyr	Lys	Cys	Asp	Arg	Gly
	50					55				60					
Arg	Cys	Trp	Arg	Glu	Ala	His	Cys	Leu	Ser	Glu	Ser	Ala	Gln	Arg	Thr
65				70						75				80	
Glu	Ser	Gly	Asp	Ser	Trp	Gln	Lys	Arg	Gly	Gly	Leu	Arg	Leu	Trp	Gly
			85					90						95	
Ile	Trp	Pro	Ile	Gly	Gln	Leu	Trp	Gly	Ser						
			100					105							

<210> 4283

<211> 315

<212> DNA

<213> Homo sapiens

<400> 4283

gaattctcaa ccagaacagc ccagcaggaa aggagccggc atgggggtgcc cctctgcagc  
 60  
 cgaccgtttt cctagaaggc ctaaccgctc aaacgggcag gggagggggg cgggcggccc  
 120  
 gggagaaacc gagtccccgc cgggtcccca cegtgtggcg ccgaccgaaa taactccagt  
 180  
 ccagctgcaa aaacctccc gaaaacccaa gcttgtccgg cacaacttcg gtctctccag  
 240  
 cctcattcct gcccgcactc cgccaaactg ctgcacctgc ccagcgcagc ggatgcagcg  
 300  
 ctcccggccc nacgg  
 315

<210> 4284

<211> 91  
 <212> PRT  
 <213> Homo sapiens

<400> 4284

```

Met Gly Cys Pro Ser Ala Ala Asp Arg Phe Pro Arg Arg Pro Asn Arg
 1             5             10             15
Ser Asn Gly Gln Gly Arg Gly Ala Gly Gly Pro Gly Glu Thr Glu Ser
      20             25             30
Pro Pro Gly Pro His Arg Val Ala Pro Thr Glu Ile Thr Pro Val Gln
      35             40             45
Leu Gln Lys Pro Ser Arg Lys Pro Lys Leu Val Arg His Asn Phe Gly
      50             55             60
Leu Ser Ser Leu Ile Pro Ala Arg Thr Pro Pro Asn Cys Ser Pro Cys
65             70             75             80
Pro Ala Gln Arg Met Gln Arg Ser Arg Pro Xaa
      85             90

```

<210> 4285  
 <211> 591  
 <212> DNA  
 <213> Homo sapiens

<400> 4285

```

nagatctcag agaacttggt gaacattcag aaaatgcaga aaacgcaggt gaaatgccgc
60
aaaatcctga ccaagatgaa gcagcagggt catgagacag ccgcctgtcc ggagactgaa
120
gagataccgc agggagccag tggctgctgg aaggatgacc tccagaagga actgagtgat
180
atatggtgat gcccagcctg cagtctgacc cctgaccctc ctctgaaccc gttcccccaa
240
cgggatctgg cagtgaccac cagaacctgg agccacactg agtcagact tccctcaccc
300
cctaggactc accccaccac ggcccccaac cttagctgta ctgctgtcta caccctgagc
360
agtgtggagt ctcccagcgc cccagctcc ttgtcttctt gcaggctctgc tgtgcacgtg
420
ctgcaggact ccatagacag cctcactttg tgctcggggg cctgtcccaa ggccctcgagc
480
ctaagaggcc acaagggcac cagtgcctga gccctccact cccctcctgg gactctgact
540
ccgactgtga ccaggacctc tcccagccac ctttcagcaa gagcggccgc a
591

```

<210> 4286  
 <211> 106  
 <212> PRT  
 <213> Homo sapiens

<400> 4286

```

Cys Pro Ala Cys Ser Leu Thr Pro Asp Pro Pro Leu Asn Pro Phe Pro
 1             5             10             15
Gln Arg Asp Leu Ala Val Thr Thr Arg Thr Trp Ser Pro Pro Glu Ser

```

```
<210> 4288
<211> 240
<212> PRT
<213> Homo sapiens
```



&lt;400&gt; 4288

```

Met Arg Val Ala Thr Lys Ser Gly Arg Lys Arg Trp Leu Lys Ala Thr
 1           5           10           15
Thr Met Lys Asn Ser Val Arg Leu Val Ala Met Ala Pro Ser Pro Ala
      20           25           30
Leu Thr Ser Ile Ser Ser Glu Pro Ser Glu Ala Trp Val Gln Ala Phe
   35           40           45
Ala Ser Tyr Arg Met Ser Pro Gly Asn Trp Lys Thr Xaa Val Leu Ala
   50           55           60
Gln Thr Leu Val Glu Ala Leu Gln Leu Asp Pro Glu Thr Leu Ala Asn
 65           70           75           80
Glu Thr Ala Ala Arg Ala Ala Asn Val Ala Arg Ala Ala Ala Ser Asn
      85           90           95
Arg Ala Ala Arg Ala Ala Ala Ala Ala Arg Thr Ala Phe Ser Gln
      100           105           110
Val Val Ala Ser His Arg Val Ala Thr Pro Gln Val Ser Gly Glu Asp
   115           120           125
Thr Gln Pro Thr Thr Tyr Ala Ala Glu Ala Gln Gly Pro Thr Pro Glu
   130           135           140
Pro Pro Leu Ala Ser Pro Gln Thr Ser Gln Met Leu Val Thr Ser Lys
 145           150           155           160
Met Ala Ala Pro Glu Ala Pro Ala Thr Ser Ala Gln Ser Gln Thr Gly
      165           170           175
Ser Pro Ala Gln Glu Ala Ala Thr Glu Gly Pro Ser Ser Ala Cys Ala
   180           185           190
Phe Ser Gln Ala Pro Cys Ala Arg Glu Val Asp Ala Asn Arg Pro Ser
   195           200           205
Thr Ala Phe Leu Gly Gln Asn Asp Val Phe Asp Phe Thr Gln Pro Ala
   210           215           220
Val Ser Val Ala Trp Leu Pro Ala Pro Lys Arg Pro Ala Gln Pro Arg
 225           230           235           240

```

&lt;210&gt; 4289

&lt;211&gt; 353

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4289

```

ggatccctgg gaagatgact accctgcctg tgcgggatat gagggagaaa tatgggagcc
60
tcctcacttc aggtgtcact gctcagcata tatccaggct ttgttttcat attggtcttg
120
caaagagcct tttgggaaca gttttcttat tgaaacatac tcagtgttta aacctgcagg
180
tgtgggttgg tggcagtcca catggcatcc tttgctctgt ccctgttctc ctgtctctgg
240
ctattcaggt tcccgtgagg atactgtcac ccttgaataa tggagcttgc ggaagaccaa
300
gccctgtttt ttggagtcct tgtgctgagg ccgctgtaac ttgaggagag ttg
353

```

&lt;210&gt; 4290

&lt;211&gt; 113

&lt;212&gt; PRT

<213> Homo sapiens

<400> 4290

```

Met Thr Thr Leu Pro Val Arg Asp Met Arg Glu Lys Tyr Gly Ser Leu
 1           5           10           15
Leu Thr Ser Gly Val Thr Ala Gln His Ile Ser Arg Leu Cys Phe His
      20           25           30
Ile Gly Leu Ala Lys Ser Leu Leu Gly Thr Val Phe Leu Leu Lys His
      35           40           45
Thr Gln Cys Leu Asn Leu Gln Val Trp Val Gly Gly Ser Pro His Gly
      50           55           60
Ile Leu Cys Ser Val Pro Val Leu Leu Ser Leu Ala Ile Gln Val Pro
65           70           75           80
Val Arg Ile Leu Ser Pro Leu Asn Asn Gly Ala Cys Gly Arg Pro Ser
      85           90           95
Pro Cys Phe Trp Ser Pro Cys Ala Glu Ala Ala Val Thr Cys Gly Glu
      100          105          110
Leu

```

<210> 4291

<211> 517

<212> DNA

<213> Homo sapiens

<400> 4291

```

nnaaaatttgc caagccaaga gttaccccag gaagattctc tcttacatgg ccaattttca
60
caagcagtca ctcccctagc ccatcatcac acagattatt caaagcccac cgatatctca
120
tgagagaca cacttttctca gaagtttggg tcttcagatc acttgagaa actatttaag
180
atggatgaag caagtgccca gtccttgct tataaggaaa aaggccattc tcagagttca
240
caattttcct ctgatcaaga aatagctcat ctgctgcctg aaaatgtgag tgcgctccca
300
gctacgggtgg cagttgcttc tccacatacc acctcggcta ctccaaagcc cgccaccctt
360
ctaccacca atgcttcagt gacaccttct gggacttccc agccacagct ggccaccaca
420
gctccacctg taaccactgt cacttctcag cctcccacga cctcatttc tacagttttt
480
acacgggctg tggctacact ccaagcaatg gctacaa
517

```

<210> 4292

<211> 172

<212> PRT

<213> Homo sapiens

<400> 4292

```

Xaa Asn Leu Pro Ser Gln Glu Leu Pro Gln Glu Asp Ser Leu Leu His
 1           5           10           15
Gly Gln Phe Ser Gln Ala Val Thr Pro Leu Ala His His His Thr Asp

```

<400> 4294  
Ala Gly Ala Pro Gly Ala Asp Ala Cys Ser Val Pro Val Ser Glu Ile

```

      1           5           10           15
Ile Ala Val Glu Glu Thr Asp Val His Gly Lys His Gln Gly Ser Gly
      20           25           30
Lys Trp Gln Lys Met Glu Lys Pro Tyr Ala Phe Thr Val His Cys Val
      35           40           45
Lys Arg Ala Arg Arg His Arg Trp Lys Trp Ala Gln Val Thr Phe Trp
      50           55           60
Cys Pro Glu Glu Gln Leu Cys His Leu Trp Leu Gln Thr Leu Arg Glu
      65           70           75           80
Met Leu Glu Lys Leu Thr Ser Arg Pro Lys His Leu Leu Val Phe Ile
      85           90           95
Asn Pro Phe Gly Gly Lys Gly Gln Gly Lys Arg Ile Tyr Glu Arg Lys
      100          105          110
Val Ala Pro Leu Phe Thr Leu Ala Ser Ile Thr Thr Asp Ile Ile Val
      115          120          125
Thr Glu His Ala Asn Gln Ala Lys Glu Thr Leu Tyr Glu Ile Asn Ile
      130          135          140
Asp Lys Tyr Asp Gly Ile Val Cys Val Gly Gly Asp Gly Met Phe Ser
      145          150          155          160
Glu Val Leu His Gly Leu Ile Gly Arg Thr Gln Arg Ser Ala Gly Val
      165          170          175
Asp Gln Asn His Pro Arg
      180

```

&lt;210&gt; 4295

&lt;211&gt; 431

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4295

```

nntctagaaa atcactgtct cttctaccc tgccatctct acaccagggc tacaaacaag
60
agccactgct tggctccttg ttttgtaa atgatttggt ggactacagc tatgcccgtc
120
catgtacatt ttgtgtatgg ctgcttttgt gccacaacag cagggttgag tattgcgaca
180
gagacccccca ttgcccacaa gcctaaaaca tttgccatcg agccctttaa gaaagagttt
240
gctggccgtg cgcggtggcc gtggtcccg cctgtaatcc cagcactttg gaaggctgag
300
gcaggcgggtg aggtctggag ttcgaaacca gcctggccag cgtggcgaaa cctgtctcc
360
ccctcccaga ttcacgtgat tatccacct cagcctcctg agtacctggg actataggcg
420
cgtgccaacc a
431

```

&lt;210&gt; 4296

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4296

```

Xaa Leu Glu Asn His Cys Leu Leu Leu Pro Cys His Leu Tyr Thr Arg

```

1	5	10	15
Val Thr Asn Lys Ser Pro Leu Leu Ala Pro Cys Phe Val Asn Lys Ile			
	20	25	30
Cys Trp Thr Thr Ala Met Pro Val His Val His Phe Val Tyr Gly Cys			
	35	40	45
Phe Cys Ala Thr Thr Ala Gly Leu Ser Ile Ala Thr Glu Thr Pro Ile			
	50	55	60
Ala His Lys Pro Lys Thr Phe Ala Ile Glu Pro Phe Lys Lys Glu Phe			
65	70	75	80
Ala Gly Arg Ala Arg Trp Pro Trp Leu Pro Pro Val Ile Pro Ala Leu			
	85	90	95
Trp Lys Ala Glu Ala Gly Gly Glu Val Trp Ser Ser Lys Pro Ala Trp			
	100	105	110
Pro Ala Trp Arg Asn Pro Val Ser Pro Ser Gln Ile His Val Ile Ile			
	115	120	125
Pro Pro Gln Pro Pro Glu Tyr Leu Gly Leu			
130	135		

&lt;210&gt; 4297

&lt;211&gt; 1668

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4297

```

nccatggact cggcctttgt ggggtataaag gtcaaccaag tgtcagctgc agttggaaaa
60
gatttcaccg tgattccatc taaactgatt cagtttgacc caggaatgtc aactaagatg
120
tggaatatag caattaccta tgacggatta gaggaagatg atgaggtctt tgaagtaatt
180
ctgaactccc ctgtgaatgc agttcttggc acaaagacaa aagctgcagt gaaaattttg
240
gactcaaaaag gaggacaatg ccattccttca ttttcttcca accaaagcaa gcacagcaca
300
tgggagaagg gcatttggca tctgctgccc ccagggtctt cctcatccac cacttctggt
360
tcctttcatc tggaagaag acctcttcca tcttccatgc agctagcagt catcagggga
420
gacaccctgc ggggctttga ttctacagat ctttctcaaa ggaagcttag gaccctggg
480
aatggcaaaa cagttcgtcc atcctctgtt tatagaaatg gaacagacat catctataat
540
tatcatggga tagtttctt gaaactggag gatgacagtt tccaactca caaaaggaag
600
gccaaagtat ccattcattag tcagccacaa aagacaatca aagtggcaga actgcctcaa
660
gcagataagg tggaatccac aactgactca cacttcccca gacaggacca gttgccctca
720
tttccaaaga actgcactct ggaattaaag ggactcttcc attttgaaga aggcattccag
780
aagctgtatc agtgcaatgg gatcgctgg aaagcctgga gtccccaac caaggatgtg
840
gaagacaaat cctgtccagc cgggtggcac cagcactcag gctactgtca catcttgatc
900

```

acagagcaga aaggcacctg gaatgcggct gcccaagctt gcaggaaca atacctgggc  
 960  
 aaccttgtaa ctgtattctc caggcagcac atgcggtggc tctgggacat tgggtggaga  
 1020  
 aagtcctttt ggataggttt gaacgaccaa gtgcatgctg gccactggga gtggatcggc  
 1080  
 ggtgaacctg ttgccttcac caatgggaga agagggccct ctccacgctc caagcttgga  
 1140  
 aagagctgtg ttttggttca aagacaaggg aaatggcaaa caaaagactg taggagagcc  
 1200  
 aaacctcata attatgtgtg ttccagaaaa ctctaaatat aacagaccct acagggggcc  
 1260  
 acctggagtt tgtcacctat ttattcacag gatctgtgaa tattgctcca tagaaaaaca  
 1320  
 attgttatga ttgagtgggt atacctttgt gattctgtct agtgaaaatg ggacattttt  
 1380  
 aatagtgcc aagagattga taaataaata ttttttaca gataagatac aatttttgta  
 1440  
 tctcaatacc ttttaaaata aatgccagca gtattaaaaa gtgtaagggt tgtttattcc  
 1500  
 agaagaccct cacccttacc ccattccaaa tctcaggag caccagtctc atagtccttg  
 1560  
 gatttttttt aaaaaaaatt tttgggtccg ttacctctaa tgaatttatt ctgaaatatg  
 1620  
 tatcgtaggt gtcctacca ctttagtctg agtggaagc caaaaaac  
 1668

&lt;210&gt; 4298

&lt;211&gt; 411

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4298

Xaa	Met	Asp	Ser	Ala	Phe	Val	Gly	Ile	Lys	Val	Asn	Gln	Val	Ser	Ala
1				5					10					15	
Ala	Val	Gly	Lys	Asp	Phe	Thr	Val	Ile	Pro	Ser	Lys	Leu	Ile	Gln	Phe
		20					25					30			
Asp	Pro	Gly	Met	Ser	Thr	Lys	Met	Trp	Asn	Ile	Ala	Ile	Thr	Tyr	Asp
		35				40					45				
Gly	Leu	Glu	Glu	Asp	Asp	Glu	Val	Phe	Glu	Val	Ile	Leu	Asn	Ser	Pro
	50				55				60						
Val	Asn	Ala	Val	Leu	Gly	Thr	Lys	Thr	Lys	Ala	Ala	Val	Lys	Ile	Leu
65				70				75					80		
Asp	Ser	Lys	Gly	Gly	Gln	Cys	His	Pro	Ser	Tyr	Ser	Ser	Asn	Gln	Ser
			85				90						95		
Lys	His	Ser	Thr	Trp	Glu	Lys	Gly	Ile	Trp	His	Leu	Leu	Pro	Pro	Gly
		100					105					110			
Ser	Ser	Ser	Ser	Thr	Thr	Ser	Gly	Ser	Phe	His	Leu	Glu	Arg	Arg	Pro
		115				120					125				
Leu	Pro	Ser	Ser	Met	Gln	Leu	Ala	Val	Ile	Arg	Gly	Asp	Thr	Leu	Arg
	130				135				140						
Gly	Phe	Asp	Ser	Thr	Asp	Leu	Ser	Gln	Arg	Lys	Leu	Arg	Thr	Arg	Gly
145				150				155					160		
Asn	Gly	Lys	Thr	Val	Arg	Pro	Ser	Ser	Val	Tyr	Arg	Asn	Gly	Thr	Asp

```

      165      170      175
Ile Ile Tyr Asn Tyr His Gly Ile Val Ser Leu Lys Leu Glu Asp Asp
      180      185      190
Ser Phe Pro Thr His Lys Arg Lys Ala Lys Val Ser Ile Ile Ser Gln
      195      200      205
Pro Gln Lys Thr Ile Lys Val Ala Glu Leu Pro Gln Ala Asp Lys Val
      210      215      220
Glu Ser Thr Thr Asp Ser His Phe Pro Arg Gln Asp Gln Leu Pro Ser
225      230      235      240
Phe Pro Lys Asn Cys Thr Leu Glu Leu Lys Gly Leu Phe His Phe Glu
      245      250      255
Glu Gly Ile Gln Lys Leu Tyr Gln Cys Asn Gly Ile Ala Trp Lys Ala
      260      265      270
Trp Ser Pro Gln Thr Lys Asp Val Glu Asp Lys Ser Cys Pro Ala Gly
      275      280      285
Trp His Gln His Ser Gly Tyr Cys His Ile Leu Ile Thr Glu Gln Lys
      290      295      300
Gly Thr Trp Asn Ala Ala Gln Ala Cys Arg Glu Gln Tyr Leu Gly
305      310      315      320
Asn Leu Val Thr Val Phe Ser Arg Gln His Met Arg Trp Leu Trp Asp
      325      330      335
Ile Gly Gly Arg Lys Ser Phe Trp Ile Gly Leu Asn Asp Gln Val His
      340      345      350
Ala Gly His Trp Glu Trp Ile Gly Gly Glu Pro Val Ala Phe Thr Asn
      355      360      365
Gly Arg Arg Gly Pro Ser Pro Arg Ser Lys Leu Gly Lys Ser Cys Val
      370      375      380
Leu Val Gln Arg Gln Gly Lys Trp Gln Thr Lys Asp Cys Arg Arg Ala
385      390      395      400
Lys Pro His Asn Tyr Val Cys Ser Arg Lys Leu
      405      410

```

&lt;210&gt; 4299

&lt;211&gt; 988

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4299

```

nngcgaccgc tcttgctgaa aggtggctgg gagaggtcct ggtagagtc ggagtcagag
60
tcccaggagg ggagtgagg gctcaggcac tggcgccctt gtggcctctt aggctcgagg
120
ccttgggaca ggccccgag cacaaagtga ggctgtctat ggagttctgc agcacgtgca
180
cagcagacca tatatcactc agttccttct ggaggtcatc cttccagcag ccactggctc
240
cctgcggtat ctcttcagtc tccggacagg cggctgtctc atgaccctgc tgcttcatct
300
tggtcaggat tttgcggcat ttcacctgcg tttctgcat tttctgaatg ttcaccaagt
360
tctctgagat ctcactctcc tgcgcttgga gcttctgata gatgaaggtc acctcctccc
420
gcaccagttc cagctcctcc cacaggaact tcttgctgtc ccgcatctcc tgggcccagca
480

```

gctgcaggca gcgagtggg cgggcccgt gcatctctc actgtcacgc agggctcttct  
540  
ccagcccctg aaggccttgg gtcagggccc catacagctc ctgccggccc tgcctcatgc  
600  
cccacttggt ctctctcttc tctccatggc ggctgtggg gctcagcacc tcttcaagct  
660  
gctgaatctt gatttgctgc aagcagctct cttctccaa catggtcact gagtggttca  
720  
ggaactcgaa agccttgggc tgggcctgta actggctctt gagtgactca agttcacatc  
780  
gcaggagctt ctgggagtcg ggaatcatca caatggctctt ggctttgact ttggaagagc  
840  
tggctccaa gggcttcaca taccacctgt tcatgctctn cccatcaggg accacgaagc  
900  
cagtcctcag ctgtgacgct gaagtttgat cccgcgggga caccatcgta ttaaaacgct  
960  
cagagactga gtcacagaga ggggtgtc  
988

&lt;210&gt; 4300

&lt;211&gt; 84

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4300

Gly	Cys	Leu	Trp	Ser	Ala	Ala	Arg	Ala	Gln	Gln	Thr	Ile	Tyr	His
1				5				10					15	
Ser	Val	Pro	Ser	Gly	Gly	His	Pro	Ser	Ser	Ser	His	Trp	Leu	Pro
			20				25					30		
Val	Ser	Leu	Gln	Ser	Pro	Asp	Arg	Arg	Leu	Ser	His	Asp	Pro	Ala
		35					40				45			
Ser	Ser	Trp	Ser	Gly	Phe	Cys	Gly	Ile	Ser	Pro	Ala	Phe	Ser	Ala
	50					55				60				
Ser	Glu	Cys	Ser	Pro	Ser	Ser	Leu	Arg	Ser	His	Pro	Pro	Ala	Leu
65					70				75				80	
Ala	Ser	Asp	Arg											

&lt;210&gt; 4301

&lt;211&gt; 2429

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4301

nnaggcaccg cggcgctcgg gtgttttttg gggcccgggt ggagggcccg ggtgccgggg  
60  
cccaaggtgc ggcctcgcta gcgggagagg gacggggatc accggcccgg agagagctct  
120  
cagggccaga gcggggcagg aggatgcttt ccagcccca ccatggagct gcgctgtggg  
180  
ggattgctgt tcagttctcg ctttgattca gggaatctag cccacgtgga gaaggtggaa  
240  
tctttgtcca gtgatgggga aggggttagga ggtggggcgt cagccctgac cagtggcatt  
300



gcctcttccc ctgactatga attcaacgtg tggacccgac cagactgtgc tgaaacggaa  
360  
tttgagaatg ggaacaggtc atggttctac ttcagcgtcc ggggaggaat gccaggaaaa  
420  
ctcatcaaga tcaacattat gaacatgaac aagcagagca agctgtattc ccagggcattg  
480  
gccccctttg tgcgcacact gcccacccgg ccacgctggg aacgcattcg agaccggccc  
540  
acctttgaga tgacagagac gcagtttgtg ttatcctttg ttcacgtttt cgtggagggc  
600  
cgtggggcca ccaccttctt cgccttctgc tacccttctt cctacagtga ctgccaggaa  
660  
ctgctaaacc agctagacca gcgctttccg gagaaccacc ctacccatag cagccccctg  
720  
gataccatct attaccatcg ggagctcctt tgctattctc tggatggact tcgtgtagat  
780  
ctgctgacga tcaacttctg ccatgggctt cgagaagatc gagagccccg tctagagcag  
840  
ctatttctg ataccagcac cctcagacca ttccgtttcg caggcaagag gatattcttc  
900  
ttaagcagta gagtaccccc aggggagact ccatctagct ttgtcttcaa tggctttctg  
960  
gacttcatcc tccgacctga tgatccccgg gcccaaacc tccgtcgctt ctctgtcttt  
1020  
aagctgattc ccatgttgaa ccccgatggt gtggtccggg gacactaccg cacagactca  
1080  
cgtggagtga atctgaaccg tcagtacctg aagcctgatg ccgtcctgca cccggccatc  
1140  
tatggggcca aagctgtgct tctctaccac catgtgcact ctcgtctgaa ctcccagagt  
1200  
tcctctgagc accagcccag ttctgtctc cctcctgatg ctctgtttc tgacctggag  
1260  
aaagccaaca atctccaaaa tgaagctcag tgtgggcaact cagctgacag gcataacgct  
1320  
gaagcctgga aacaaacaga gccagcagaa cagaagctca acagtgtgtg gattatgcca  
1380  
caacagtctg cggggcttga agagtcagcc cctgatacca tccccccaa agagagtggc  
1440  
gttgcttact atgtggacct gcatggacat gttccaaaaa ggggctgctt catgtacgga  
1500  
aacagcttta gtgatgagag caccaggtg gaaaacatgc tatatccaaa gctcatctcc  
1560  
ttgaattcag cccacttca cttccagggc tgcaatttct cagagaagaa tatgtatgcc  
1620  
cgagaccgta gagatggcca gtctaaagag ggaagcggcc gtgttgcaat ctacaaagcc  
1680  
tcagggataa tccacagcta cacacttgaa tgcaactaca aactggacg ctcagtaaac  
1740  
agcatccctg ctgcctgcca tgacaatggg cgtgccagcc cccctcccc gccggctttc  
1800  
ccctccagat acactgtgga actatttgag cagggtgggac gagctatggc cattgcagcc  
1860  
ctggacatgg cggaatgtaa tccgtggccc cgaattgtac tgtcagagca cagcagcctt  
1920

actaatctac gggcctggat gctgaaacat gtacgcaaca gccgaggcct aagcagcact  
 1980  
 ctgaatgtgg gtgtcaacaa gaagaggggc cttcgaactc cacccaaaag tcacaatggg  
 2040  
 ttgcctgtct cctgctccga aaacaccttg agtcgggcac gaagtttttag caccggcaca  
 2100  
 agtgccggtg gtagcagcag cagccaacaa aattctccac agatgaagaa ttccccagc  
 2160  
 tttccttttc atggcagtcg gcctgcaggg ctgccaggcc tgggctctag tacccaaaag  
 2220  
 gtcaccacc ggggtgctggg ccccgtcaga ggtaagccag tctgggagcc cctgcaacat  
 2280  
 gtgttcggtt gtctggggca ttgtggggg aagtaagagc ttgaagatat actgttggcc  
 2340  
 caggaccaag gggatgaatca ataaaattag tttgtagcag aaaaaaaaaa aaaaaaaaaa  
 2400  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2429

<210> 4302

<211> 717

<212> PRT

<213> Homo sapiens

<400> 4302

Met	Glu	Leu	Arg	Cys	Gly	Gly	Leu	Leu	Phe	Ser	Ser	Arg	Phe	Asp	Ser
1				5					10					15	
Gly	Asn	Leu	Ala	His	Val	Glu	Lys	Val	Glu	Ser	Leu	Ser	Ser	Asp	Gly
			20					25					30		
Glu	Gly	Val	Gly	Gly	Gly	Ala	Ser	Ala	Leu	Thr	Ser	Gly	Ile	Ala	Ser
		35					40					45			
Ser	Pro	Asp	Tyr	Glu	Phe	Asn	Val	Trp	Thr	Arg	Pro	Asp	Cys	Ala	Glu
	50					55					60				
Thr	Glu	Phe	Glu	Asn	Gly	Asn	Arg	Ser	Trp	Phe	Tyr	Phe	Ser	Val	Arg
65				70					75					80	
Gly	Gly	Met	Pro	Gly	Lys	Leu	Ile	Lys	Ile	Asn	Ile	Met	Asn	Met	Asn
			85					90					95		
Lys	Gln	Ser	Lys	Leu	Tyr	Ser	Gln	Gly	Met	Ala	Pro	Phe	Val	Arg	Thr
		100					105					110			
Leu	Pro	Thr	Arg	Pro	Arg	Trp	Glu	Arg	Ile	Arg	Asp	Arg	Pro	Thr	Phe
		115					120				125				
Glu	Met	Thr	Glu	Thr	Gln	Phe	Val	Leu	Ser	Phe	Val	His	Arg	Phe	Val
	130				135						140				
Glu	Gly	Arg	Gly	Ala	Thr	Thr	Phe	Phe	Ala	Phe	Cys	Tyr	Pro	Phe	Ser
145				150					155					160	
Tyr	Ser	Asp	Cys	Gln	Glu	Leu	Leu	Asn	Gln	Leu	Asp	Gln	Arg	Phe	Pro
			165					170					175		
Glu	Asn	His	Pro	Thr	His	Ser	Ser	Pro	Leu	Asp	Thr	Ile	Tyr	Tyr	His
		180						185				190			
Arg	Glu	Leu	Leu	Cys	Tyr	Ser	Leu	Asp	Gly	Leu	Arg	Val	Asp	Leu	Leu
		195					200					205			
Thr	Ile	Thr	Ser	Cys	His	Gly	Leu	Arg	Glu	Asp	Arg	Glu	Pro	Arg	Leu
	210				215						220				
Glu	Gln	Leu	Phe	Pro	Asp	Thr	Ser	Thr	Pro	Arg	Pro	Phe	Arg	Phe	Ala

3499



50	55	60
Ser Ser Gln Ser Ser Ser Val Asn Ser Leu Pro Asp Val Ser Asp Asp		
65	70	75
Lys Ser Glu Leu Asp Met Met Glu Gly Asp His Thr Val Met Ser Asn		80
	85	90
Ser Ser Val Ile His Leu Lys Pro Glu Glu Glu Asn Tyr Arg Glu Glu		95
	100	105
Gly Asp Pro Arg Thr Arg Ala Ser Asp Pro Gln Ser Pro Pro Gln Val		110
	115	120
Ser Arg His Lys Ser His Tyr Arg Asn Arg Glu His Phe Ala Thr Ile		125
	130	135
Arg Thr Ala Ser Leu Val Thr Arg Gln Met Gln Glu His Glu Gln Asp		140
145	150	155
Ser Glu Leu Arg Glu Gln Met Ser Gly Tyr Lys Arg Met Arg Arg Gln		160
	165	170
His Gln Lys Gln Leu Met Thr Leu Glu Asn Lys Leu Lys Ala Glu Met		175
	180	185
Asp Glu His Arg Leu Arg Leu Asp Lys Asp Leu Glu Thr Gln Arg Asn		190
	195	200
Asn Phe Ala Ala Glu Met Glu Lys Leu Ile Lys Lys His Gln Ala Ala		205
	210	215
Met Glu Lys Glu Ala Lys Val Met Ser Asn Glu Glu Lys Lys Phe Gln		220
225	230	235
Gln His Ile Gln Ala Gln Gln Lys Lys Glu Leu Asn Ser Phe Leu Glu		240
	245	250
		255

&lt;210&gt; 4305

&lt;211&gt; 3400

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4305

```

atggctggga tggacagtgg caacctgaag accgcgaggc tgtggcgagg cgccgccttg
60
cgtgccagga agctgcggag caacctgcgc cagctcacgc tcaccgccgc cggggcctgc
120
cccggggccg gggccgacgc gctcgagtcc cccgcctccc cccagctcgt gctgccggcc
180
aacctcgggg acattgaggg actgaacctg gggaacaacg gcctggagga ggtaccagag
240
gggctggggg cggcgctggg cagcctgcgc gtcctgggtc tgcgcaggaa ccgcttcgcc
300
cggctgcccc cggcggtggc cgagctcggc caccacctca ccgagctgga cgtgagccac
360
aaccggctga ccgccctggg cgcggaggtg gtgagtgtc tgagggagct gcggaagctc
420
aacctcagcc acaaccagct gcccgccctg cccgccagc tgggcgctct cgctcacctg
480
gaggagctgg atgtcagctt taaccggctg gcgcacctgc ctgactccct ctctgcctc
540
tccgcctgc gcacctgga cgtggatcac aaccagctca ctgccttccc ccggcagctg
600
ctgcagctgg tggccctgga ggagctggac gtgtccagca accggctgcg gggcctgcct
660

```

gaggatatca gtgccctgcg tgccctcaag atcctctggc tgagtggggc cgagcttggc  
720  
acgctgcccg ccggcttctg cgagctggcc agtttgaga gcctcatgct agacaacaac  
780  
gggctgcagg ctctgccgc ccagttcagc tgctgcagc ggctcaaat gctcaacctg  
840  
tcctccaacc tcttcgagga gttccctgcc gcgctgctgc cctggctgg tctggaggag  
900  
ctctacctta gtcgcaacca gtcacctcg gtgcatccc ttatctcggg cctgggcccg  
960  
cttctcacct tgttgctgga taataaccgc atccgctacc tgccggactc catcgtggag  
1020  
ctgaccggcc tggaggagct cgtgctgcag ggaaccaga tcgcggtgct gcccgaccac  
1080  
tttgccagc tctcccggtt gggtttgttg aagatcaaag acaaccact gatccagccc  
1140  
ccctacgagg tctgcatgaa ggggatcccc tacatgcag cctaccagaa ggaactggct  
1200  
cattcccagc cggcggtgca gcccggctc aagctgctcc tgatggggca taaggctgca  
1260  
gaaagactt tgctgcgcca ctgcctcacc gaggagagag tggagggatg cccaggagga  
1320  
ggggacaagg agaagtgcta ccacccgtca cctccccctg tgagcaaggg catcgaggtg  
1380  
accagctgga cggccgatgc ctcccgggc ctgcggttca tcgtgtatga cttagctggg  
1440  
gatgaaagt atgaggtgat ccagccctc ttctgtccc caggggccct atacgtgctg  
1500  
gtggtcaact tggccaccta tgagctcgc cactttccta ccaccgtggg ctcttcttg  
1560  
catcggtcgg gggcgagagt gcccaacgcg gtggtgtgca tcgtgggcac ccacgcagac  
1620  
ctgtgcggag agcgtgagct ggaggagaaa tgtctggaca ttaccgcca gatcgcctg  
1680  
caggagaagc acgacgcgga gggactgagc cgcttggcca aggtggtgga cgaggcactg  
1740  
gcccgggact tcgagctgcg ctctgccagc cccacgcag cctactatgg cgtttcggac  
1800  
aagaacctt gacggcgcaa ggccatttt caatacctgc tcaaccaccg gctgcagatc  
1860  
ctctccccg tggtgcctgt tagctgcagg gaccgcgcc acttacgacg ccttcgggac  
1920  
aagttgctgt cagttgctga gcaccgagag atcttcccca acttacacag agtactgcct  
1980  
cgatcctggc aggtgctgga ggaactgcat ttccagccac ctcaggccca gcgactgtgg  
2040  
ctaagctggt gggactcggc gcgcttgggc ctgcaggcgg gtctgaccga ggaccgactg  
2100  
cagagtgcct tctcctacct gcatgagagc ggcaagctac tctactttga ggacagtccg  
2160  
gctctcaagg agcacgtctt ccacaacctc acccgctca tcgacatcct caatgtcttc  
2220  
ttccagaggg atccctcttt gctgctgcat aagctgctcc tagggaccag tggagagggc  
2280

aaggcggagg gggaaagctc cccgcccattg gcgcgggtcca ccccagcca ggaactgctc  
2340  
cgggccaccc agctccatca gtatgtggag ggctttctgt tgcattgggt cttgccagct  
2400  
catgtcattc ggttgctgct taagcctcat gtccaggccc agcaggactt gcagctgttg  
2460  
ctggagctgc tggagaagat gggactctgt tactgcctca ataaaccaa gggcaagcct  
2520  
ttgaatgggt ccacagcttg gtacaagttc ccatgctatg tgcagaacga ggtgccccat  
2580  
gcagaagcct ggattaatgg gaccaaccta gctgggcagt cttttgtggc tgagcagttg  
2640  
cagattgaat atagctttcc ttttactttt ccacctgggt tgtttgacg ctacagtgtc  
2700  
cagatcaaca gccatgtgggt gcacaggctg gatggtaaatt ttcagatctt tgcctataga  
2760  
gggaaagtgc ctgtggttgt gagttacaga cctgccaggg gagtcctgca gccagacacc  
2820  
ctgtccattg ctgacctgc atcattacca aatatatgga ccgcatggca agccataacc  
2880  
cccttggtgg aggaactgaa tgcctactt caggaatggc ctggactgca ctacaccgtg  
2940  
cacattctct gttctaagtg ccttaagaga ggatcgccca atccacatgc ttttccaggg  
3000  
gagttgctga gtcagcccag accggaagga gtggcagaga tcatttgccc caagaacggc  
3060  
agcgagcgag taaatgttgc cttggtttac ccaccacgc cgactgtgat cagcccctgt  
3120  
tccaagaaga atgttggtga aaagcacaga aaccagtgc gtttgtggct gtggaatttc  
3180  
catggagaaa agagagcatc tgaacacctg gaccatcttt tgcacctggc agaccctctg  
3240  
cactcacccc agcgtgttct gtgaacttga gtgacaacgc gtgcttgacg ggtgcttttt  
3300  
ggatgactgg ggaagagggtg gggagagggg tgggtggggg aagcatggac gagaacatgg  
3360  
agcaaagtgt ttacaacctg aacctcagaa ctgtgatctc  
3400

&lt;210&gt; 4306

&lt;211&gt; 1052

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4306

Met Ala Gly Met Asp Ser Gly Asn Leu Lys Thr Ala Arg Leu Trp Arg  
1 5 10 15  
Asp Ala Ala Leu Arg Ala Arg Lys Leu Arg Ser Asn Leu Arg Gln Leu  
20 25 30  
Thr Leu Thr Ala Ala Gly Ala Cys Pro Gly Ala Gly Ala Asp Ala Leu  
35 40 45  
Glu Ser Pro Ala Ser Pro Gln Leu Val Leu Pro Ala Asn Leu Gly Asp  
50 55 60  
Ile Glu Ala Leu Asn Leu Gly Asn Asn Gly Leu Glu Glu Val Pro Glu

65					70					75				80	
Gly	Leu	Gly	Ser	Ala	Leu	Gly	Ser	Leu	Arg	Val	Leu	Val	Leu	Arg	Arg
				85					90					95	
Asn	Arg	Phe	Ala	Arg	Leu	Pro	Pro	Ala	Val	Ala	Glu	Leu	Gly	His	His
			100					105					110		
Leu	Thr	Glu	Leu	Asp	Val	Ser	His	Asn	Arg	Leu	Thr	Ala	Leu	Gly	Ala
		115					120					125			
Glu	Val	Val	Ser	Ala	Leu	Arg	Glu	Leu	Arg	Lys	Leu	Asn	Leu	Ser	His
		130					135					140			
Asn	Gln	Leu	Pro	Ala	Leu	Pro	Ala	Gln	Leu	Gly	Ala	Leu	Ala	His	Leu
145					150					155					160
Glu	Glu	Leu	Asp	Val	Ser	Phe	Asn	Arg	Leu	Ala	His	Leu	Pro	Asp	Ser
			165						170					175	
Leu	Ser	Cys	Leu	Ser	Arg	Leu	Arg	Thr	Leu	Asp	Val	Asp	His	Asn	Gln
		180						185					190		
Leu	Thr	Ala	Phe	Pro	Arg	Gln	Leu	Gln	Leu	Val	Ala	Leu	Glu	Glu	
		195					200					205			
Leu	Asp	Val	Ser	Ser	Asn	Arg	Leu	Arg	Gly	Leu	Pro	Glu	Asp	Ile	Ser
		210				215						220			
Ala	Leu	Arg	Ala	Leu	Lys	Ile	Leu	Trp	Leu	Ser	Gly	Ala	Glu	Leu	Gly
225					230					235					240
Thr	Leu	Pro	Ala	Gly	Phe	Cys	Glu	Leu	Ala	Ser	Leu	Glu	Ser	Leu	Met
			245						250					255	
Leu	Asp	Asn	Asn	Gly	Leu	Gln	Ala	Leu	Pro	Ala	Gln	Phe	Ser	Cys	Leu
		260						265					270		
Gln	Arg	Leu	Lys	Met	Leu	Asn	Leu	Ser	Ser	Asn	Leu	Phe	Glu	Glu	Phe
		275					280					285			
Pro	Ala	Ala	Leu	Leu	Pro	Leu	Ala	Gly	Leu	Glu	Glu	Leu	Tyr	Leu	Ser
		290				295						300			
Arg	Asn	Gln	Leu	Thr	Ser	Val	Pro	Ser	Leu	Ile	Ser	Gly	Leu	Gly	Arg
305					310					315					320
Leu	Leu	Thr	Leu	Trp	Leu	Asp	Asn	Asn	Arg	Ile	Arg	Tyr	Leu	Pro	Asp
			325						330					335	
Ser	Ile	Val	Glu	Leu	Thr	Gly	Leu	Glu	Glu	Leu	Val	Leu	Gln	Gly	Asn
			340					345					350		
Gln	Ile	Ala	Val	Leu	Pro	Asp	His	Phe	Gly	Gln	Leu	Ser	Arg	Val	Gly
		355					360					365			
Leu	Trp	Lys	Ile	Lys	Asp	Asn	Pro	Leu	Ile	Gln	Pro	Pro	Tyr	Glu	Val
		370				375						380			
Cys	Met	Lys	Gly	Ile	Pro	Tyr	Ile	Ala	Ala	Tyr	Gln	Lys	Glu	Leu	Ala
385					390					395					400
His	Ser	Gln	Pro	Ala	Val	Gln	Pro	Arg	Leu	Lys	Leu	Leu	Leu	Met	Gly
			405						410					415	
His	Lys	Ala	Ala	Gly	Lys	Thr	Leu	Leu	Arg	His	Cys	Leu	Thr	Glu	Glu
		420						425					430		
Arg	Val	Glu	Gly	Cys	Pro	Gly	Gly	Asp	Lys	Glu	Lys	Cys	Tyr	Pro	
		435					440					445			
Pro	Ser	Pro	Pro	Pro	Val	Ser	Lys	Gly	Ile	Glu	Val	Thr	Ser	Trp	Thr
		450				455						460			
Ala	Asp	Ala	Ser	Arg	Gly	Leu	Arg	Phe	Ile	Val	Tyr	Asp	Leu	Ala	Gly
465					470					475					480
Asp	Glu	Ser	Tyr	Glu	Val	Ile	Gln	Pro	Phe	Phe	Leu	Ser	Pro	Gly	Ala
			485						490					495	
Leu	Tyr	Val	Leu	Val	Val	Asn	Leu	Ala	Thr	Tyr	Glu	Pro	Arg	His	Phe



500					505					510					
Pro	Thr	Thr	Val	Gly	Ser	Phe	Leu	His	Arg	Val	Gly	Ala	Arg	Val	Pro
515					520					525					
Asn	Ala	Val	Val	Cys	Ile	Val	Gly	Thr	His	Ala	Asp	Leu	Cys	Gly	Glu
530					535					540					
Arg	Glu	Leu	Glu	Glu	Lys	Cys	Leu	Asp	Ile	His	Arg	Gln	Ile	Ala	Leu
545					550					555					
Gln	Glu	Lys	His	Asp	Ala	Glu	Gly	Leu	Ser	Arg	Leu	Ala	Lys	Val	Val
565					570					575					
Asp	Glu	Ala	Leu	Ala	Arg	Asp	Phe	Glu	Leu	Arg	Ser	Ala	Ser	Pro	His
580					585					590					
Ala	Ala	Tyr	Gly	Val	Ser	Asp	Lys	Asn	Leu	Arg	Arg	Arg	Lys	Ala	
595					600					605					
His	Phe	Gln	Tyr	Leu	Leu	Asn	His	Arg	Leu	Gln	Ile	Leu	Ser	Pro	Val
610					615					620					
Leu	Pro	Val	Ser	Cys	Arg	Asp	Pro	Arg	His	Leu	Arg	Arg	Leu	Arg	Asp
625					630					635					
Lys	Leu	Leu	Ser	Val	Ala	Glu	His	Arg	Glu	Ile	Phe	Pro	Asn	Leu	His
645					650					655					
Arg	Val	Leu	Pro	Arg	Ser	Trp	Gln	Val	Leu	Glu	Glu	Leu	His	Phe	Gln
660					665					670					
Pro	Pro	Gln	Ala	Gln	Arg	Leu	Trp	Leu	Ser	Trp	Trp	Asp	Ser	Ala	Arg
675					680					685					
Leu	Gly	Leu	Gln	Ala	Gly	Leu	Thr	Glu	Asp	Arg	Leu	Gln	Ser	Ala	Leu
690					695					700					
Ser	Tyr	Leu	His	Glu	Ser	Gly	Lys	Leu	Leu	Tyr	Phe	Glu	Asp	Ser	Pro
705					710					715					
Ala	Leu	Lys	Glu	His	Val	Phe	His	Asn	Leu	Thr	Arg	Leu	Ile	Asp	Ile
725					730					735					
Leu	Asn	Val	Phe	Phe	Gln	Arg	Asp	Pro	Ser	Leu	Leu	Leu	His	Lys	Leu
740					745					750					
Leu	Leu	Gly	Thr	Ser	Gly	Glu	Gly	Lys	Ala	Glu	Gly	Glu	Ser	Ser	Pro
755					760					765					
Pro	Met	Ala	Arg	Ser	Thr	Pro	Ser	Gln	Glu	Leu	Leu	Arg	Ala	Thr	Gln
770					775					780					
Leu	His	Gln	Tyr	Val	Glu	Gly	Phe	Leu	Leu	His	Gly	Leu	Leu	Pro	Ala
785					790					795					
His	Val	Ile	Arg	Leu	Leu	Leu	Lys	Pro	His	Val	Gln	Ala	Gln	Gln	Asp
805					810					815					
Leu	Gln	Leu	Leu	Leu	Glu	Leu	Leu	Glu	Lys	Met	Gly	Leu	Cys	Tyr	Cys
820					825					830					
Leu	Asn	Lys	Pro	Lys	Gly	Lys	Pro	Leu	Asn	Gly	Ser	Thr	Ala	Trp	Tyr
835					840					845					
Lys	Phe	Pro	Cys	Tyr	Val	Gln	Asn	Glu	Val	Pro	His	Ala	Glu	Ala	Trp
850					855					860					
Ile	Asn	Gly	Thr	Asn	Leu	Ala	Gly	Gln	Ser	Phe	Val	Ala	Glu	Gln	Leu
865					870					875					
Gln	Ile	Glu	Tyr	Ser	Phe	Pro	Phe	Thr	Phe	Pro	Pro	Gly	Leu	Phe	Ala
885					890					895					
Arg	Tyr	Ser	Val	Gln	Ile	Asn	Ser	His	Val	Val	His	Arg	Ser	Asp	Gly
900					905					910					
Lys	Phe	Gln	Ile	Phe	Ala	Tyr	Arg	Gly	Lys	Val	Pro	Val	Val	Val	Ser
915					920					925					
Tyr	Arg	Pro	Ala	Arg	Gly	Val	Leu	Gln	Pro	Asp	Thr	Leu	Ser	Ile	Ala

930	935	940
Ser His Ala Ser Leu Pro Asn Ile Trp Thr Ala Trp Gln Ala Ile Thr		
945	950	955
Pro Leu Val Glu Glu Leu Asn Val Leu Leu Gln Glu Trp Pro Gly Leu		960
	965	970
His Tyr Thr Val His Ile Leu Cys Ser Lys Cys Leu Lys Arg Gly Ser		975
	980	985
Pro Asn Pro His Ala Phe Pro Gly Glu Leu Leu Ser Gln Pro Arg Pro		990
	995	1000
Glu Gly Val Ala Glu Ile Ile Cys Pro Lys Asn Gly Ser Glu Arg Val		1005
	1010	1015
Asn Val Ala Leu Val Tyr Pro Pro Thr Pro Thr Val Ile Ser Pro Cys		1020
1025	1030	1035
Ser Lys Lys Asn Val Gly Glu Lys His Arg Asn Gln		1040
	1045	1050

&lt;210&gt; 4307

&lt;211&gt; 947

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4307

tgtacagcct gcagaggacc agccctgaaa agaattgagag agtccgccag atgcgccccg  
 60  
 tgtgtgactg ccagggtcac ctgctctgga accggcctcg gtttggagag atcaatgacc  
 120  
 aggacagaac tgatcgatac gtccagggtc tgaggaccgt ctctctcctc ctgggcgagc  
 180  
 cgttcttcac taccagcctg ctgccgtggc acaacctcta cttctggtac gtgcggacgc  
 240  
 tgtggaccag cacctggggc caggtgccat ggtgatgcc caggcagcct cgctgcacgc  
 300  
 tgtggttggt gagttcaggg tgtgcaggga acagcaagat gtgcctcttg ttcttgctgc  
 360  
 cacgcttccc tgtgtcctgc gggcggggtg ggatggggct gtccttctc cacaggancc  
 420  
 tgtggcggat ccggagccnc ctgtggtgac tgcgaaggct tcgacgtgca catcatggat  
 480  
 gacatgatta aggtaggcag ggccacactc tgcatagtcc ccccgacctg ctctgtatc  
 540  
 gcaggcctct cacagggtcc cagcttgggc agcacaggct cttctgttgg gggcagttag  
 600  
 gtcagggtgct gccattttgt gtggttcaac atgagcattg cttggtacca gccctgttct  
 660  
 tggctccgtg ctgtcacctc gtgtcagaat ctccactggg cctgcacgtc ctgtcattgc  
 720  
 aactgcccct gccagtgcc acagcttctt ttctagtggg gctgacttcc cagaggccat  
 780  
 ctgggaacct tcttaggcag ccatttccat ggtgggggct ccattcccgg gaggggtacc  
 840  
 tgaggagatt cccacaggtt atttacatgg taggggttag caactgggcc tacgttctcc  
 900  
 agaaccatgg gctgtcctga cagcgccagt ggtccttga ttcatga  
 947

<210> 4308  
 <211> 200  
 <212> PRT  
 <213> Homo sapiens

<400> 4308  
 Gly Pro Ser Leu Ser Ser Trp Ala Ser Arg Ser Ser Leu Pro Ala Cys  
 1 5 10 15  
 Cys Arg Gly Thr Thr Ser Thr Ser Gly Thr Cys Gly Arg Cys Gly Pro  
 20 25 30  
 Ala Pro Gly Ala Arg Cys His Gly Asp Ala Pro Gly Ser Leu Ala Ala  
 35 40 45  
 Arg Cys Gly Cys Gly Val Gln Gly Val Gln Gly Thr Ala Arg Cys Ala  
 50 55 60  
 Ser Cys Ser Cys Cys His Ala Ser Leu Cys Pro Ala Gly Gly Cys Gly  
 65 70 75 80  
 Trp Gly Cys Ser Phe Leu Thr Gly Xaa Cys Gly Gly Ser Gly Ala Xaa  
 85 90 95  
 Cys Gly Asp Cys Glu Gly Phe Asp Val His Ile Met Asp Asp Met Ile  
 100 105 110  
 Lys Val Gly Arg Ala Thr Leu Cys Ile Val Pro Pro Thr Cys Ser Cys  
 115 120 125  
 Ile Ala Gly Leu Ser Gln Gly Pro Ser Leu Gly Ser Thr Gly Ser Ser  
 130 135 140  
 Val Gly Gly Ser Glu Val Arg Cys Cys His Phe Val Trp Phe Asn Met  
 145 150 155 160  
 Ser Ile Ala Trp Tyr Gln Pro Cys Ser Trp Leu Arg Ala Val Thr Leu  
 165 170 175  
 Cys Gln Asn Leu His Trp Ala Cys Thr Ser Cys His Cys Asn Cys Pro  
 180 185 190  
 Cys Gln Cys Pro Gln Leu Leu Phe  
 195 200

<210> 4309  
 <211> 1928  
 <212> DNA  
 <213> Homo sapiens

<400> 4309  
 tttttttttg agttactggc catttgaggt atttattaat gaagattaaa catccaaagg  
 60  
 gcagtcctca atgctcattt ccatgatttt aagagttgat aactccatgt catgattatt  
 120  
 gtcgcctttg aactggaga actgaacaga ttgggagggt gatgtgttaa gaccacataa  
 180  
 tccatttgaa atctcaacct tttcagggtc actatcacct tcaatgacat tcacagaagt  
 240  
 ttcccgatct gttaaactgt ctgaaatact tggatgattt tcatccaaag ttgaagtttc  
 300  
 aagatttggt tcatcattca cctgttgaat tataaccctt tctgaatgct ttgatttata  
 360  
 aataggcatg aaaaattcag ttggtgaagg gaatatctcg ttctcatcct ttggtgccga  
 420

caataacata tccaaagcct tttggtattg ttgacgttcc tgctgaattg ttacttcact  
480  
ttcatttttt aattcatttg gttctgaatt cccagccttt tcaaaatcaa atacattcaa  
540  
catatcaaca tcattttgct ttaccgagtt ttcctccgat gtgcagccta agtctacttt  
600  
caggacatgc agcaggtggc gcattttttc ctcctccaaa tgtttatttt gttttatatg  
660  
tcgctcgaac agtcgttcta aaaacctggt tgaaaataaa ccaagtttca aaatttcac  
720  
tgttacatct tcaatgaaac tcagatacaa cagttcttct tcatcagagt agattttacg  
780  
agttgaaggg ggcttcaggg aatactgaca cattgccctt ggtgaggaat gctgaagagc  
840  
atcatcctta atctcatccc atgttgagtc atgcccttct aaaggtaaag gagctatttt  
900  
ttctttggca tcatatgtca cacaattaga tgcctgcttt atgttcattt ctgaatctgt  
960  
catgttttta gtctcagctg tccccaaactc agatttaaag cttaattcag tctggggttc  
1020  
agcttctatc cggtgatctg taaaatcctt ttttcttttg gcagggtgat aatagcgata  
1080  
ctgtgacagg aaagattttg cttctgtttt taaagtgcga ggagtgaatg gcaattgttt  
1140  
gttagaaaag agttcagaat gtttatccaa aagatcccca ctgggtgctt tcgaaatgac  
1200  
taactgaaac cgggtgggaat ttgggaatgt gcttctgggc cttctgccat acagggctcc  
1260  
agagctcagt ttccggggcc cggaggctgc ataatccaca ctggacgggg aggaactgga  
1320  
gttcttctca ggaccatttg tgatgacttt actggattta tgtagactta ggtgtagtct  
1380  
ctctgaagag ggtactagt accttgcaaa ggatgaaaat ccattcattt cttcttttaa  
1440  
catgtcatcc tcaatttgcg gttcgcctga gggcttttgt aaggatttaa aaagtgactt  
1500  
ggaattattt ttataattgg ctgcattgc agttttagtt aatttgaact ctttttcaca  
1560  
ttgtgctaatt tcctttttga gtttctctct tcggtgttgg tctgcatact ttatgctggt  
1620  
actcacgctt actggaaccg agcagtctac tgcagctttg gctgaaagga ttttattata  
1680  
gtgaacagcc atgtgattct tgaccagctg gagagtgcct agtctgagag aagaggagtc  
1740  
agtgcacaaa gcattacttt tgggtgctcaa gtgtccttta aataggcacg gtggaccata  
1800  
tctgggaagg acagaggttg ctctgactct cgggctgcca ttcattgctta gtcctcttgc  
1860  
agccgcccga gggacacgct gtataccctt cggctcttcc cgcgcgcgcc accccggcag  
1920  
tgaggagac  
1928

&lt;210&gt; 4310

&lt;211&gt; 599

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4310

```

Met Asn Gly Ser Arg Arg Val Arg Ala Thr Ser Val Leu Pro Arg Tyr
 1           5           10           15
Gly Pro Pro Cys Leu Phe Lys Gly His Leu Ser Thr Lys Ser Asn Ala
      20           25           30
Phe Cys Thr Asp Ser Ser Ser Leu Arg Leu Ser Thr Leu Gln Leu Val
      35           40           45
Lys Asn His Met Ala Val His Tyr Asn Lys Ile Leu Ser Ala Lys Ala
      50           55           60
Ala Val Asp Cys Ser Val Pro Val Ser Val Ser Thr Ser Ile Lys Tyr
      65           70           75           80
Ala Asp Gln Gln Arg Arg Glu Lys Leu Lys Lys Glu Leu Ala Gln Cys
      85           90           95
Glu Lys Glu Phe Lys Leu Thr Lys Thr Ala Met Arg Ala Asn Tyr Lys
      100          105          110
Asn Asn Ser Lys Ser Leu Phe Asn Thr Leu Gln Lys Pro Ser Gly Glu
      115          120          125
Pro Gln Ile Glu Asp Asp Met Leu Lys Glu Glu Met Asn Gly Phe Ser
      130          135          140
Ser Phe Ala Arg Ser Leu Val Pro Ser Ser Glu Arg Leu His Leu Ser
      145          150          155          160
Leu His Lys Ser Ser Lys Val Ile Thr Asn Gly Pro Glu Lys Asn Ser
      165          170          175
Ser Ser Ser Pro Ser Ser Val Asp Tyr Ala Ala Ser Gly Pro Arg Lys
      180          185          190
Leu Ser Ser Gly Ala Leu Tyr Gly Arg Arg Pro Arg Ser Thr Phe Pro
      195          200          205
Asn Ser His Arg Phe Gln Leu Val Ile Ser Lys Ala Pro Ser Gly Asp
      210          215          220
Leu Leu Asp Lys His Ser Glu Leu Phe Ser Asn Lys Gln Leu Pro Phe
      225          230          235          240
Thr Pro Arg Thr Leu Lys Thr Glu Ala Lys Ser Phe Leu Ser Gln Tyr
      245          250          255
Arg Tyr Tyr Thr Pro Ala Lys Arg Lys Lys Asp Phe Thr Asp Gln Arg
      260          265          270
Ile Glu Ala Glu Thr Gln Thr Glu Leu Ser Phe Lys Ser Glu Leu Gly
      275          280          285
Thr Ala Glu Thr Lys Asn Met Thr Asp Ser Glu Met Asn Ile Lys Gln
      290          295          300
Ala Ser Asn Cys Val Thr Tyr Asp Ala Lys Glu Lys Ile Ala Pro Leu
      305          310          315          320
Pro Leu Glu Gly His Asp Ser Thr Trp Asp Glu Ile Lys Asp Asp Ala
      325          330          335
Leu Gln His Ser Ser Pro Arg Ala Met Cys Gln Tyr Ser Leu Lys Pro
      340          345          350
Pro Ser Thr Arg Lys Ile Tyr Ser Asp Glu Glu Glu Leu Leu Tyr Leu
      355          360          365
Ser Phe Ile Glu Asp Val Thr Asp Glu Ile Leu Lys Leu Gly Leu Phe
      370          375          380
Ser Asn Arg Phe Leu Glu Arg Leu Phe Glu Arg His Ile Lys Gln Asn

```

```

385          390          395          400
Lys His Leu Glu Glu Glu Lys Met Arg His Leu Leu His Val Leu Lys
          405          410          415
Val Asp Leu Gly Cys Thr Ser Glu Glu Asn Ser Val Lys Gln Asn Asp
          420          425          430
Val Asp Met Leu Asn Val Phe Asp Phe Glu Lys Ala Gly Asn Ser Glu
          435          440          445
Pro Asn Glu Leu Lys Asn Glu Ser Glu Val Thr Ile Gln Gln Glu Arg
          450          455          460
Gln Gln Tyr Gln Lys Ala Leu Asp Met Leu Leu Ser Ala Pro Lys Asp
465          470          475          480
Glu Asn Glu Ile Phe Pro Ser Pro Thr Glu Phe Phe Met Pro Ile Tyr
          485          490          495
Lys Ser Lys His Ser Glu Gly Val Ile Ile Gln Gln Val Asn Asp Glu
          500          505          510
Thr Asn Leu Glu Thr Ser Thr Leu Asp Glu Asn His Pro Ser Ile Ser
          515          520          525
Asp Ser Leu Thr Asp Arg Glu Thr Ser Val Asn Val Ile Glu Gly Asp
          530          535          540
Ser Asp Pro Glu Lys Val Glu Ile Ser Asn Gly Leu Cys Gly Leu Asn
545          550          555          560
Thr Ser Pro Ser Gln Ser Val Gln Phe Ser Ser Val Lys Gly Asp Asn
          565          570          575
Asn His Asp Met Glu Leu Ser Thr Leu Lys Ile Met Glu Met Ser Ile
          580          585          590
Glu Asp Cys Pro Leu Asp Val
          595

```

&lt;210&gt; 4311

&lt;211&gt; 432

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4311

```

nnacgcgtga agggcattcg cccttggaat tgtcagcgat gttttgcaca ttatgatgtc
60
cagagcattt tgtttaatat caacgaagcc atggctacga gggctaattg ggggaaaagg
120
aaaaacataa ccaactggggc atctgcagca tcccagactc agatgcctac gggccagaca
180
ggcaactgtg agtccccctt agggagcaag gaggacctca actccaaaga gaacctggat
240
gccgatgagg gagatgggaa aagtaacgac ctgcgtcctta gttgtcctta cttagaaat
300
gagactggag gggaaggcga caggcggatt gcgctctctc gagccaactc atcctctttc
360
agttctgggg aaagctgctc ttctgaatcg tcactcagct ctactgcac aaatgcaggt
420
gtctccgtct tg
432

```

&lt;210&gt; 4312

&lt;211&gt; 144

&lt;212&gt; PRT

<213> Homo sapiens

<400> 4312

```

Xaa Arg Val Lys Gly Ile Arg Pro Trp Asn Cys Gln Arg Cys Phe Ala
 1           5           10           15
His Tyr Asp Val Gln Ser Ile Leu Phe Asn Ile Asn Glu Ala Met Ala
      20           25           30
Thr Arg Ala Asn Val Gly Lys Arg Lys Asn Ile Thr Thr Gly Ala Ser
      35           40           45
Ala Ala Ser Gln Thr Gln Met Pro Thr Gly Gln Thr Gly Asn Cys Glu
      50           55           60
Ser Pro Leu Gly Ser Lys Glu Asp Leu Asn Ser Lys Glu Asn Leu Asp
      65           70           75           80
Ala Asp Glu Gly Asp Gly Lys Ser Asn Asp Leu Val Leu Ser Cys Pro
      85           90           95
Tyr Phe Arg Asn Glu Thr Gly Gly Glu Gly Asp Arg Arg Ile Ala Leu
      100          105          110
Ser Arg Ala Asn Ser Ser Ser Phe Ser Ser Gly Glu Ser Cys Ser Phe
      115          120          125
Glu Ser Ser Leu Ser Ser His Cys Thr Asn Ala Gly Val Ser Val Leu
      130          135          140

```

<210> 4313

<211> 936

<212> DNA

<213> Homo sapiens

<400> 4313

```

ggatccctcc tttttcctcc cctgccctgc ccaggcccag atggccttga ctgtaaagcc
60
aggtgctgcc tgacagggtc ttctctccct gtctctggtc attgatecat ctctttgtcc
120
attcagtatc caaccatcct ctccattctc ctctggacct caccactctc agagctgctt
180
gtctggcagc aatctacagt tcaccccaac tctatgcctt accctccca acccaacagc
240
atttgagtt tgcaaaatat acagacccaa gtctgaggg gactgaggac atgatgctgg
300
gccaagtct cctgctcagg gcttctctcc aatgccagcc ctgccactcc ttcctcaccc
360
tccttgagc ctctctgct gcttgtctat cccaacggcc ctgctccct ccttctctgc
420
ccttcaccag ctttctggga caccatgccc tgaggaaggg acctttggtt ttctctaaac
480
atctttgaag ggctgaggca gtcagggtg gctgccttgt cactctttat ttggaagcca
540
ctcaaaccat tccaagaag agggacctca gctggcaatc tggaaacctg gccaggtct
600
gggcagatgt cttcacttct cctaccttcc cagtcttggtg atcctgtgat gagcaccagg
660
atggccctgt ggtccctaga gcaccttca tgctgtaggg tctgcagcc ccactcttcc
720
tctactgggc cctggtatcc tggtcctct ctcagctctg ccactgatct ctgtgcctta
780

```

gtttacttct ctgcacgggg gactcacccc aagaccattt ccagcagctt cccaggtgat  
840  
gtggtgcccc aaggctgggc ttgacagctg tggcccagct ccttagtgct gcccaggaga  
900  
caccaggctg ctcagaatga ggtgactgcg ggcaac  
936

<210> 4314  
<211> 110  
<212> PRT  
<213> Homo sapiens

<400> 4314  
Met Ser Ser Leu Leu Leu Pro Ser Gln Ser Cys Asp Pro Val Met Ser  
1 5 10 15  
Thr Arg Met Ala Leu Trp Ser Leu Glu His Pro Ser Cys Cys Arg Val  
20 25 30  
Leu Gln Pro His Pro Phe Ser Thr Gly Pro Trp Tyr Pro Gly Ser Ser  
35 40 45  
Leu Ser Ser Ala Thr Asp Leu Cys Ala Leu Val Tyr Phe Ser Ala Arg  
50 55 60  
Gly Thr His Pro Lys Thr Ile Ser Ser Ser Phe Pro Gly Asp Val Val  
65 70 75 80  
Pro Gln Gly Trp Ala Leu Gln Leu Trp Pro Ser Ser Leu Val Leu Pro  
85 90 95  
Arg Arg His Gln Ala Ala Gln Asn Glu Val Thr Ala Gly Asn  
100 105 110

<210> 4315  
<211> 573  
<212> DNA  
<213> Homo sapiens

<400> 4315  
nncctaattcc aatatgactg gtgtccttat aagaagagga aattaggaca cagacaggca  
60  
cagagcgaatg accatgtgaa gacacaggga agagatggcc acctaccacc acgccaatggt  
120  
cacctaccat ccaagccatg gtcaccttca ccaagccaca gtcacatctacc atccaagcca  
180  
ccgtcaccta ccatccaagc catggccacc tacctgcca gccatggcca cctaccgccc  
240  
aagccatggt cacctacca ccaagtcatt gtcgcctacc atccaaggag caggcctgga  
300  
acagatcctt cccagagcc ctcagtagga gccaaccctg ctgacacctt gatctcagac  
360  
ttcaagcctc cagaactgtg ggacaatcct tcactgtcat ttaatccacc cagcatgtgg  
420  
tctcttgta cagttgcatt agccagtga cctaccggg cccttctgca gtcgcctggc  
480  
tcaggagtgg ttctggtcag gaagttctga ggccaggcag gatcgggaca ctccctggaa  
540  
agacccgagg gagatatttg ggaaacaaga tgg  
573



<210> 4316  
 <211> 169  
 <212> PRT  
 <213> Homo sapiens

<400> 4316  
 Xaa Leu Ile Gln Tyr Asp Trp Cys Pro Tyr Lys Lys Arg Lys Leu Gly  
 1 5 10 15  
 His Arg Gln Ala Gln Ser Asp Asp His Val Lys Thr Gln Gly Arg Asp  
 20 25 30  
 Gly His Leu Pro Pro Arg His Gly His Leu Pro Ser Lys Pro Trp Ser  
 35 40 45  
 Pro Ser Pro Ser His Ser His Leu Pro Ser Lys Pro Pro Ser Pro Thr  
 50 55 60  
 Ile Gln Ala Met Ala Thr Tyr Leu Pro Ser His Gly His Leu Pro Ala  
 65 70 75 80  
 Lys Pro Trp Ser Pro Thr His Gln Val Met Val Ala Tyr His Pro Arg  
 85 90 95  
 Ser Arg Pro Gly Thr Asp Pro Ser Pro Glu Pro Ser Val Gly Ala Asn  
 100 105 110  
 Pro Ala Asp Thr Leu Ile Ser Asp Phe Lys Pro Pro Glu Leu Trp Asp  
 115 120 125  
 Asn Pro Ser Leu Ser Phe Asn Pro Pro Ser Met Trp Ser Leu Val Thr  
 130 135 140  
 Val Ala Leu Ala Ser Glu Pro Thr Arg Ala Leu Leu Gln Ser Pro Gly  
 145 150 155 160  
 Ser Gly Val Val Leu Val Arg Lys Phe  
 165

<210> 4317  
 <211> 744  
 <212> DNA  
 <213> Homo sapiens

<400> 4317  
 nntgaagaga agtcaaaaaa ctcacgacct gtcagagatt tggggtccat ttcaggatca  
 60  
 tcccatgccg aaacataact ccagatatat aatgaatttc gtgatagccg cttattcaca  
 120  
 gatgttatca tttgggtgga aggaaaagaa tttccttgcc atagagctgt gctctcagcc  
 180  
 tgtagcagct acttcagagc tatgttttgt aatgaccaca gggaaagccg agaaatgttg  
 240  
 gttgatagca atggtatatt agctgaagct atggaatggt ttttgcagta tgtttatact  
 300  
 ggaaaggtga agatcactac agagaatgta cagtatctct ttgagacatc aagcctcttt  
 360  
 cagattagtg ttctccgtga tgcattgtcc aagttcttgg aggagcaact tgatccttgt  
 420  
 aattgcttag gaatccagcg ctttgctgat acccattcac tcaaaacact cttcacaaaa  
 480  
 tgcaaaaatt ttgcgttaca gacttttgag gatgtatccc agcacgaaga atttcttgag  
 540

cttgacaaag atgaacttat tgattatatt tgtagtgatg aacttggtat tggtaaagag  
600  
gagatgggtt ttgaagccgt catgcgttgg gtctatcgtg ccgttgatct gagaagacca  
660  
ctgttacacg agctcctgac acatgtgaga ctccctctgt tgcaccccaa ctactttgtt  
720  
caaacagttg aagtggacca attg  
744

<210> 4318

<211> 239

<212> PRT

<213> Homo sapiens

<400> 4318

Pro	Val	Arg	Asp	Leu	Gly	Ser	Ile	Ser	Gly	Ser	Ser	His	Ala	Glu	Asn
1				5					10					15	
Ile	Leu	Gln	Ile	Phe	Asn	Glu	Phe	Arg	Asp	Ser	Arg	Leu	Phe	Thr	Asp
		20						25				30			
Val	Ile	Ile	Trp	Val	Glu	Gly	Lys	Glu	Phe	Pro	Cys	His	Arg	Ala	Val
	35					40					45				
Leu	Ser	Ala	Cys	Ser	Ser	Tyr	Phe	Arg	Ala	Met	Phe	Cys	Asn	Asp	His
	50				55					60					
Arg	Glu	Ser	Arg	Glu	Met	Leu	Val	Glu	Ile	Asn	Gly	Ile	Leu	Ala	Glu
65				70				75						80	
Ala	Met	Glu	Cys	Phe	Leu	Gln	Tyr	Val	Tyr	Thr	Gly	Lys	Val	Lys	Ile
			85					90					95		
Thr	Thr	Glu	Asn	Val	Gln	Tyr	Leu	Phe	Glu	Thr	Ser	Ser	Leu	Phe	Gln
		100					105						110		
Ile	Ser	Val	Leu	Arg	Asp	Ala	Cys	Ala	Lys	Phe	Leu	Glu	Gln	Leu	
	115					120						125			
Asp	Pro	Cys	Asn	Cys	Leu	Gly	Ile	Gln	Arg	Phe	Ala	Asp	Thr	His	Ser
	130				135					140					
Leu	Lys	Thr	Leu	Phe	Thr	Lys	Cys	Lys	Asn	Phe	Ala	Leu	Gln	Thr	Phe
145				150					155					160	
Glu	Asp	Val	Ser	Gln	His	Glu	Glu	Phe	Leu	Glu	Leu	Asp	Lys	Asp	Glu
			165					170					175		
Leu	Ile	Asp	Tyr	Ile	Cys	Ser	Asp	Glu	Leu	Val	Ile	Gly	Lys	Glu	Glu
	180						185					190			
Met	Val	Phe	Glu	Ala	Val	Met	Arg	Trp	Val	Tyr	Arg	Ala	Val	Asp	Leu
	195					200						205			
Arg	Arg	Pro	Leu	Leu	His	Glu	Leu	Leu	Thr	His	Val	Arg	Leu	Pro	Leu
	210				215					220					
Leu	His	Pro	Asn	Tyr	Phe	Val	Gln	Thr	Val	Glu	Val	Asp	Gln	Leu	
225					230					235					

<210> 4319

<211> 388

<212> DNA

<213> Homo sapiens

<400> 4319

nccatggaga aaagtattga tgctgtgatt gcaactgcct ctgcaccacc ttcttccagt  
60

ccaggccgta gccacagcaa ggaccgaacc ctgggaaaac cagacagcct tttagtgcct  
 120  
 gcagtcgcaa gtgactcttg caataatagc atctcactcc tatctgaaaa gttgacaagc  
 180  
 agctgttccc cccatcatat caagagaagt gtagtggaag ctatgcaacg ccaagctcgg  
 240  
 aaaatgtgca attaccacaa aatcttggcc acaaagaaaa acctagacca tgtcaataaa  
 300  
 atcttaaaag ccaaaaaact tcaaaggcag gccaggacag ggaataactt tgtgaaacgt  
 360  
 aggccaggtc gaccgcggtc ggagagag  
 388

<210> 4320

<211> 129

<212> PRT

<213> Homo sapiens

<400> 4320

Xaa	Met	Glu	Lys	Ser	Ile	Asp	Ala	Val	Ile	Ala	Thr	Ala	Ser	Ala	Pro
1			5					10					15		
Pro	Ser	Ser	Ser	Pro	Gly	Arg	Ser	His	Ser	Lys	Asp	Arg	Thr	Leu	Gly
		20				25						30			
Lys	Pro	Asp	Ser	Leu	Leu	Val	Pro	Ala	Val	Ala	Ser	Asp	Ser	Cys	Asn
		35				40					45				
Asn	Ser	Ile	Ser	Leu	Leu	Ser	Glu	Lys	Leu	Thr	Ser	Ser	Cys	Ser	Pro
	50					55					60				
His	His	Ile	Lys	Arg	Ser	Val	Val	Glu	Ala	Met	Gln	Arg	Gln	Ala	Arg
65				70					75					80	
Lys	Met	Cys	Asn	Tyr	Asp	Lys	Ile	Leu	Ala	Thr	Lys	Lys	Asn	Leu	Asp
			85					90					95		
His	Val	Asn	Lys	Ile	Leu	Lys	Ala	Lys	Lys	Leu	Gln	Arg	Gln	Ala	Arg
		100					105					110			
Thr	Gly	Asn	Asn	Phe	Val	Lys	Arg	Arg	Pro	Gly	Arg	Pro	Arg	Ser	Glu
		115					120					125			

Arg

<210> 4321

<211> 278

<212> DNA

<213> Homo sapiens

<400> 4321

ngcccagaac ctgccacagt cccctgagaa caccgacctg caggttattc caggcagcca  
 60  
 gaccaggctc cttggtgaga agaccaccac agcggcaggg tccagccaca gcaggcccgg  
 120  
 cgtccccgtg gaaggcagcc ctgggcggaa cccaggcggt taacgggtca ctaggcagcc  
 180  
 ccagatctgg ggaacagatg agcacgtggg gagctggagt gagctgagca gaagttttgt  
 240  
 gccgcctgc ccccatcccc tccaggccac gttttaga  
 278

&lt;210&gt; 4322

&lt;211&gt; 85

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4322

```

Met Gly Ala Gly Gly His Lys Thr Ser Ala Gln Leu Thr Pro Ala Pro
 1           5           10           15
His Val Leu Ile Cys Ser Pro Asp Leu Gly Leu Pro Ser Glu Pro Leu
      20           25           30
Asn Ala Trp Val Pro Pro Arg Ala Ala Phe His Arg Asp Ala Gly Pro
      35           40           45
Ala Val Ala Gly Pro Cys Arg Cys Gly Gly Leu Leu Thr Lys Glu Pro
 50           55           60
Gly Leu Ala Ala Trp Asn Asn Leu Gln Val Gly Val Leu Arg Gly Leu
65           70           75           80
Trp Gln Val Leu Gly
                  85

```

&lt;210&gt; 4323

&lt;211&gt; 1542

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4323

```

ngttacagta aagatggagc aaagtccttg aaaggagatg tgcctgcctc tgaggtgaca
60
ctgaaagact cgacattcag ccagtttagc ccgatctcca gtgctgaaga gtttgatgac
120
gacgagaaga ttgaggtgga tgacccccct gacaaggagg acatgcgac c aagcttcagg
180
tcgaatgtgt tgacgggggc ggctccccag caggactacg ataagctgaa ggcactcgga
240
ggggaaaact ccagcaaaac tggactctct acgtcaggca atgtggagaa aaacaaagct
300
gttaagagag aaacagaagc cagttctata aacctgagtg tttatgaacc ttttaaagtc
360
agaaaagcag aggataaatt gaaggaaagc tctgacaagg tgctggaaaa cagagtccta
420
gatgggaagc tgagctccga gaagaatgac accagcctcc ccagcgttgc gccatcaaag
480
acaaagtcgt cctccaagct ctgcctctgc atcgtgcca tcgcggctct cagcgctaaa
540
aaggcggctt cagactcctg caaagaacca gtggccaatt cgagggaatc ctccccgtta
600
ccaaaagaag taaatgacag tccgagagcc gctgacaagt ctcctgaatc ccagaatctc
660
atcgacggga ccaaaaaacc atccctgaag caaccggata gtcccagaag catctcaagt
720
gagaacagca gcaaaggatc cccgtcctct cccgcggggg ccacaccagc aatccccaaa
780
gtccgcataa aaaccattaa gacatcttct ggggaaatca agagaacagt gaccagggta
840

```

ttgccagaag tggatcttga ctctggaaag aaaccttccg agcagacagc gtccgtcatg  
 900  
 gcctctgtga catcccttct gtcgtctcca gcatcagccg ccgtcctttc ctctccccc  
 960  
 agggcgccctc tccagtctgc ggtcgtgacc aatgcagttt cccctgcaga gctcaccccc  
 1020  
 aaacagggtca caatcaagcc tgtggctact gctttcctcc cagtgtctgc tgtgaagacg  
 1080  
 gcaggatccc aagtcattaa tttgaagctc gctaacaaca ccacggtgaa agccacggtc  
 1140  
 atatctgctg cctctgtcca gagtgccagc agcgccatca ttaaagctgc caacgccatc  
 1200  
 cagcagcaaa ctgctgtggt gccggcatcc agcctggcca atgccaaact cgtgccaaag  
 1260  
 actgtgcacc ttgccaacct taaccttttg cctcagggtg cccaggccac ctctgaactc  
 1320  
 cgccaagtgc taaccaaacc tcagcaacaa ataaagcagg caataatcaa tgcagcagcc  
 1380  
 tcgcaacccc ccaaaaaggt gtctcgagtc cagggtggtgt cgtccttgca gagttctgtg  
 1440  
 gtggaagctt tcaacaaggt gctgagcagt gtcaatccag tccctgttta catcccaaac  
 1500  
 ctcatctctc ccgccaatgc agggatcacg ttaccgacgc gt  
 1542

&lt;210&gt; 4324

&lt;211&gt; 514

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4324

Xaa	Tyr	Ser	Lys	Asp	Gly	Ala	Lys	Ser	Leu	Lys	Gly	Asp	Val	Pro	Ala
1				5					10					15	
Ser	Glu	Val	Thr	Leu	Lys	Asp	Ser	Thr	Phe	Ser	Gln	Phe	Ser	Pro	Ile
			20					25					30		
Ser	Ser	Ala	Glu	Glu	Phe	Asp	Asp	Asp	Glu	Lys	Ile	Glu	Val	Asp	Asp
		35					40					45			
Pro	Pro	Asp	Lys	Glu	Asp	Met	Arg	Ser	Ser	Phe	Arg	Ser	Asn	Val	Leu
	50					55					60				
Thr	Gly	Ser	Ala	Pro	Gln	Gln	Asp	Tyr	Asp	Lys	Leu	Lys	Ala	Leu	Gly
65					70				75					80	
Gly	Glu	Asn	Ser	Ser	Lys	Thr	Gly	Leu	Ser	Thr	Ser	Gly	Asn	Val	Glu
				85				90					95		
Lys	Asn	Lys	Ala	Val	Lys	Arg	Glu	Thr	Glu	Ala	Ser	Ser	Ile	Asn	Leu
			100				105						110		
Ser	Val	Tyr	Glu	Pro	Phe	Lys	Val	Arg	Lys	Ala	Glu	Asp	Lys	Leu	Lys
		115				120					125				
Glu	Ser	Ser	Asp	Lys	Val	Leu	Glu	Asn	Arg	Val	Leu	Asp	Gly	Lys	Leu
	130					135					140				
Ser	Ser	Glu	Lys	Asn	Asp	Thr	Ser	Leu	Pro	Ser	Val	Ala	Pro	Ser	Lys
145				150					155					160	
Thr	Lys	Ser	Ser	Ser	Lys	Leu	Ser	Ser	Cys	Ile	Ala	Ala	Ile	Ala	Ala
				165				170					175		
Leu	Ser	Ala	Lys	Lys	Ala	Ala	Ser	Asp	Ser	Cys	Lys	Glu	Pro	Val	Ala

```

      180      185      190
Asn Ser Arg Glu Ser Ser Pro Leu Pro Lys Glu Val Asn Asp Ser Pro
      195      200      205
Arg Ala Ala Asp Lys Ser Pro Glu Ser Gln Asn Leu Ile Asp Gly Thr
      210      215      220
Lys Lys Pro Ser Leu Lys Gln Pro Asp Ser Pro Arg Ser Ile Ser Ser
      225      230      235      240
Glu Asn Ser Ser Lys Gly Ser Pro Ser Ser Pro Ala Gly Ser Thr Pro
      245      250      255
Ala Ile Pro Lys Val Arg Ile Lys Thr Ile Lys Thr Ser Ser Gly Glu
      260      265      270
Ile Lys Arg Thr Val Thr Arg Val Leu Pro Glu Val Asp Leu Asp Ser
      275      280      285
Gly Lys Lys Pro Ser Glu Gln Thr Ala Ser Val Met Ala Ser Val Thr
      290      295      300
Ser Leu Leu Ser Ser Pro Ala Ser Ala Ala Val Leu Ser Ser Pro Pro
      305      310      315      320
Arg Ala Pro Leu Gln Ser Ala Val Val Thr Asn Ala Val Ser Pro Ala
      325      330      335
Glu Leu Thr Pro Lys Gln Val Thr Ile Lys Pro Val Ala Thr Ala Phe
      340      345      350
Leu Pro Val Ser Ala Val Lys Thr Ala Gly Ser Gln Val Ile Asn Leu
      355      360      365
Lys Leu Ala Asn Asn Thr Thr Val Lys Ala Thr Val Ile Ser Ala Ala
      370      375      380
Ser Val Gln Ser Ala Ser Ser Ala Ile Ile Lys Ala Ala Asn Ala Ile
      385      390      395      400
Gln Gln Gln Thr Val Val Val Pro Ala Ser Ser Leu Ala Asn Ala Lys
      405      410      415
Leu Val Pro Lys Thr Val His Leu Ala Asn Leu Asn Leu Leu Pro Gln
      420      425      430
Gly Ala Gln Ala Thr Ser Glu Leu Arg Gln Val Leu Thr Lys Pro Gln
      435      440      445
Gln Gln Ile Lys Gln Ala Ile Ile Asn Ala Ala Ala Ser Gln Pro Pro
      450      455      460
Lys Lys Val Ser Arg Val Gln Val Val Ser Ser Leu Gln Ser Ser Val
      465      470      475      480
Val Glu Ala Phe Asn Lys Val Leu Ser Ser Val Asn Pro Val Pro Val
      485      490      495
Tyr Ile Pro Asn Leu Ser Pro Pro Ala Asn Ala Gly Ile Thr Leu Pro
      500      505      510
Thr Arg

```

&lt;210&gt; 4325

&lt;211&gt; 1405

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4325

```

acgcgtgccc ggggtctgct gtgcagcgca gcccggtgtg gtgatacgag ccggagatgc
60
cttctgcagg gactgtttca aggccttcta cgtccacaag ttcatagcca tgctggggcaa
120

```

gaaccggctc atctttccag gcgagaaggt agcgtctggg tcctgggggt ctgactgagc  
 180  
 agcctggccc ctcgaggtcc ctgcttgtcc ctcccacagg cagcctggcc tgctgcagcc  
 240  
 cgcagctcc tccttggcct ttgaggacag actcgatgtc ctagatgtcc acgaggtggg  
 300  
 gtgtctgcct gtgttgagg tgcggtgccc tgagtgatgt tttttctccc ccaggtgctc  
 360  
 ttggcgtggc ctggggggcc ttcgtccagc tccatggtct ggcaggttct tgagggcctg  
 420  
 agccaagatt ctgcaaaaag actgcgcttt gtggcaggag tcattcttct tgacgagggg  
 480  
 gcagcctgtg gccagagcct agaggagaga tcaaagacct tggccgaagt gaagccatt  
 540  
 ctgcaagcaa ctgggttccc atggcatgtg gtggccttag aggaggtgtt cagcctgcc  
 600  
 ccgtcgggtg tttggtgctc tgcccaggag ctggtgggat ccgagggggc ctacaaggcg  
 660  
 gccgtggaca gcttctcca gcagcagtat gtgtggggg ccgggggtgg tcctggccc  
 720  
 actcaagggg aggaacagcc accccagccc ccgtggacc ccagaacct ggcaagaccg  
 780  
 cctgcccctg ccagactga ggctctttcc caactgttct gctcagttag gacactgact  
 840  
 gccaaaggag agcttctgca gaccctgcgg acccaactga tcctccacat ggcccagacc  
 900  
 cagggctact ccaaggtcat gactggggac agctgcacac gcttggctat caagctcatg  
 960  
 accaacctgg cgctgggtcg aggggccttc ctggcctggg atacgggctt ctgggatgag  
 1020  
 cggcacgggg acgtggtggg ggtgcggccc atgctggacc acacctgaa ggaggtcgt  
 1080  
 ttctacaacc gcctgttctc cgttcttct gtcttcacac cagccgtcga caccaaggcc  
 1140  
 cctgaaaagg ccagcatcca ccgctgatg gaggccttca tcctcaggct gcagaccag  
 1200  
 ttcccctcca ctgtcagcac tgtgtacagg tgtgtgtggg tgtgtgcggg ggggtgcgcg  
 1260  
 gtgtgtgctg tgtgcgggtg tgtgcgggtg gtgagctcac cactcgtgct caggccaggg  
 1320  
 cttagggtgg agccccagcc cgtgtgattc acctgctcct ccacacaatcc ggccacagga  
 1380  
 caagtgagaa gcttgtgaag ggccc  
 1405

&lt;210&gt; 4326

&lt;211&gt; 336

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4326

Met Phe Phe Leu Pro Gln Val Leu Leu Ala Trp Ser Gly Gly Pro Ser  
 1 5 10 15  
 Ser Ser Ser Met Val Trp Gln Val Leu Glu Gly Leu Ser Gln Asp Ser

```

      20      25      30
Ala Lys Arg Leu Arg Phe Val Ala Gly Val Ile Phe Val Asp Glu Gly
      35      40      45
Ala Ala Cys Gly Gln Ser Leu Glu Glu Arg Ser Lys Thr Leu Ala Glu
      50      55      60
Val Lys Pro Ile Leu Gln Ala Thr Gly Phe Pro Trp His Val Val Ala
      65      70      75      80
Leu Glu Glu Val Phe Ser Leu Pro Pro Ser Val Leu Trp Cys Ser Ala
      85      90      95
Gln Glu Leu Val Gly Ser Glu Gly Ala Tyr Lys Ala Ala Val Asp Ser
      100      105      110
Phe Leu Gln Gln Gln Tyr Val Leu Gly Ala Gly Gly Gly Pro Gly Pro
      115      120      125
Thr Gln Gly Glu Glu Gln Pro Pro Gln Pro Pro Leu Asp Pro Gln Asn
      130      135      140
Leu Ala Arg Pro Pro Ala Pro Ala Gln Thr Glu Ala Leu Ser Gln Leu
      145      150      155      160
Phe Cys Ser Val Arg Thr Leu Thr Ala Lys Glu Glu Leu Leu Gln Thr
      165      170      175
Leu Arg Thr His Leu Ile Leu His Met Ala Arg Ala His Gly Tyr Ser
      180      185      190
Lys Val Met Thr Gly Asp Ser Cys Thr Arg Leu Ala Ile Lys Leu Met
      195      200      205
Thr Asn Leu Ala Leu Gly Arg Gly Ala Phe Leu Ala Trp Asp Thr Gly
      210      215      220
Phe Ser Asp Glu Arg His Gly Asp Val Val Val Val Arg Pro Met Arg
      225      230      235      240
Asp His Thr Leu Lys Glu Val Ala Phe Tyr Asn Arg Leu Phe Ser Val
      245      250      255
Pro Ser Val Phe Thr Pro Ala Val Asp Thr Lys Ala Pro Glu Lys Ala
      260      265      270
Ser Ile His Arg Leu Met Glu Ala Phe Ile Leu Arg Leu Gln Thr Gln
      275      280      285
Phe Pro Ser Thr Val Ser Thr Val Tyr Arg Cys Val Trp Val Cys Ala
      290      295      300
Gly Gly Ala Arg Val Cys Ala Val Cys Gly Cys Val Arg Val Val Ser
      305      310      315      320
Ser Pro Leu Val Leu Arg Pro Gly Leu Arg Val Glu Pro Gln Pro Val
      325      330      335

```

&lt;210&gt; 4327

&lt;211&gt; 551

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4327

```

tggccacagg cagagccgcc tctgcagggtg acaccacccc caggccgtgc accccacctc
60
caccctcgca ggccacccag acggcagctt ggggaaacct gggaggtccc gtaccctcac
120
tgtgcagggtg gggaaattta gaccctgaaa aagggatgcc ctgagatcac catgagattg
180
aggggcaagc agggctcacc ctgactgggt cacttcccag gcaccccat gagcccaggc
240

```



accgcctgcc accctcactc tccaggaaga gccaccgcgt ggtggccggg atcgtgtggt  
 300  
 ggccagggcg tctgaccttg gctctcacc ggaggccatc caggtgctga ggatggctaa  
 360  
 cgctaaggcc acacagccag ggagaggagg tggctcgtga caccacgatg ggacacaccc  
 420  
 acctctggga gaggaggggtg actccgacag cccttgctg ccaggatgga gcctggactc  
 480  
 tggagggcat cgtgtcctgg agcagcacca gcacctcctg ttgtcaccag gcgtggatgc  
 540  
 ccgcatcatg a  
 551

<210> 4328

<211> 107

<212> PRT

<213> Homo sapiens

<400> 4328

Met	Pro	Ser	Arg	Val	Gln	Ala	Pro	Ser	Trp	Gln	Ala	Arg	Ala	Val	Gly
1				5					10					15	
Val	Thr	Leu	Leu	Ser	Gln	Arg	Trp	Val	Cys	Pro	Ile	Val	Val	Ser	Arg
		20						25				30			
Ala	Thr	Ser	Ser	Pro	Trp	Leu	Cys	Gly	Leu	Ser	Val	Ser	His	Pro	Gln
		35				40					45				
His	Leu	Asp	Gly	Leu	Arg	Val	Arg	Ala	Lys	Val	Arg	Arg	Pro	Gly	His
	50					55				60					
His	Thr	Ile	Pro	Ala	Thr	Thr	Arg	Trp	Leu	Phe	Leu	Glu	Ser	Glu	Gly
65					70				75					80	
Gly	Arg	Arg	Cys	Leu	Gly	Ser	Trp	Gly	Cys	Leu	Gly	Ser	Glu	Pro	Val
			85					90						95	
Arg	Val	Ser	Pro	Ala	Cys	Pro	Ser	Ile	Ser	Trp					
			100					105							

<210> 4329

<211> 3192

<212> DNA

<213> Homo sapiens

<400> 4329

cttaagactt tcaaagccca ataaaaatat atccaggagg gccagctaca atgagcccaa  
 60  
 gccagaggtc acctacatca gccagaaaat ctatgacctc tcagacagca agatttatct  
 120  
 tgtacctaaa actttggctc gaaagcgaaat ctggaataaa aagtacccca tttgtatcga  
 180  
 gcttggtcag caagatgact ttatgtctaa agctcagact gataaggaga cttcagaaga  
 240  
 gaagccgcca gctggaggaa gggaggaccc ttagaagcca ccccgccctc aggaggaaca  
 300  
 agatctagcc agcgagatca gatactctat ctctttggga gaactggccg agaaaaagag  
 360  
 gaatggttta ggagatttat tctggcatct aagctaaagt cggaaatcaa gaagtcacgc  
 420

ggtgtctctg gaggtaaacc agggcttttg cctgcacaca gcagacacaa cagtccgtcc  
480  
gggcacctga cccacagccg cagcagcagc aaaggcagtg tggaggagat catgtcacag  
540  
ccaaagcaga aggagctggc aggcagcgtg cggcagaaga tgcttctcga ctacagcgtg  
600  
tacatgggca ggtgtgtccc ccaggaaagc cgaagccccc agaggagccc cctgcagagt  
660  
gcggagagca gccccacagc tgggaagaag ttgccagagg ttccaccctc tgaggaggaa  
720  
gaacaggaag cctgggtgaa tgccttgctt ggaagaatat tttgggactt cttaggagag  
780  
aaatactggc ctgatctggc gtctaagaag atccaaatga aactcagcaa aataaagctc  
840  
ccctacttta tgaatgagct cactctgacg gaacttgaca tgggcgtggc tgtgccaaaa  
900  
atcctccagg ccttcaagcc ttacgttgat caccaaggac tctggattga tttggaaatg  
960  
tcctacaatg ggtcctttct gatgactctc gagacaaaa tgaatttgcc taaactaggc  
1020  
aaagagcctc ttgttgaagc cctgaagggt ggagaaattg gcaaagaagg ttgcaggccc  
1080  
cgggcattct gtctggcgga cagcgatgag gaatcctcca gcgctggctc ctccgaggaa  
1140  
gacgatgcc cagagcccgc gggggagaca aacagctcct cccaggggga aggttacgtt  
1200  
ggaggctatc gaacaagtaa gattatgagg tttgttgata aaattaccaa gtcaaaatat  
1260  
ttccaaaaag caacagagac agagtttata aaaaganaga tcgaagaagt ctccaacaca  
1320  
ccctgtctgc tcaactgttg agtacaagaa tgtagaggaa ccttggcggt caacattcca  
1380  
ccacccccga ctgaccgagt atggtatggt ttccgaaagc caccacatgt ggagctgaaa  
1440  
gctcggccaa aacttgagga gagagaagtg actttagtgc atgtgacaga ctggatagag  
1500  
aagaaactgg agcaagagtt tcagaaagtt tttgtcatgc caaacatgga tgatgtttat  
1560  
atcactataa tgcactcagc catggaccct cgctctactt cctgcctcct gaaagaccca  
1620  
cctgtggagg ctgctgatcg gccatgatgg gtgatgtcag atgttcccca tattgtgaca  
1680  
tcgagctgga tgtgtggggt tcttggccgc catctgtact gtagcactgg cctctgtgcc  
1740  
acagctactg tttcttaaag gactgcttct gccctctgcc tgccagtgcc cattccactg  
1800  
tgagggtgtc ttccctgcat ctagtacaaa ctgtctggat tgcctgtgc aaagctttga  
1860  
tttggcaaag gagaccatgg aagaatcatg gtggatccag aagttatacg tgaccacac  
1920  
catggctttt aaaagtctac ccattgttgt ggcagcaaat gagcacagta agagcaaagc  
1980  
tgaacaactt gcctcctcta ctctccaaa gcttttcttc aggcagccgg tgcacagtgg  
2040

actttttcac ttctatactt tgtatgcggc cttccacact tccagagaat gtcagtgtgc  
 2100  
 aatgtgtctg gaggggtgggg agaggaattc tgtgagcctt ttcatttcgg tgacagaaga  
 2160  
 gatgggcaga gcaacttatt ttccacatta aattgtgcat ttgggaagca agtagccata  
 2220  
 gtacacacac aacacgctat cagcttgggt aaggacagtg ggatttatgt gaacatcagg  
 2280  
 caaagccatg agatcaaacc atcccaagcc tttaccaat gaggtacaac cacctggggg  
 2340  
 ctagctaate ttgaatgttt tcctgagaca ggagcgtatg tgaaaacatc aaacactgca  
 2400  
 catgacagga tgggtcctct catcacagatg ggatgggggt agaaagccag agccagtttt  
 2460  
 tccatctggc gtttcctgtg tcctccaggt ttatatggga atcgaaacag tttgttaac  
 2520  
 tgattgggag agttccatgg gcagatttcc ctctctgaag gccaaaacgg agaactgctc  
 2580  
 tctttaatta tttcaagagt caagacaaa agtttgcctca gcatcacact acatctcaaa  
 2640  
 attaattgtg ccaacttaat tttgtgcatt tgtgtcagaa tgtttagttt acaaggttgg  
 2700  
 gggctctctt tgcttcgaga agtaaaccta ataccatttt tttattgttt aaagctgcat  
 2760  
 tcaacgtcaa aattaccttg ggtaactttt gataacttac atgtgtggac aaagctaata  
 2820  
 gtgggttttt aaacagcacc ttgcctgaac atgactttaa agaaattaat atattgaaaa  
 2880  
 catgtttgaa cccttatttt aattgcacca ttaaaacatt tgacttaaat tgtttgacca  
 2940  
 ttccagttgg tgtactgttc tgatttttcg ttgtgtaggc cgatctgcct gtcagagtcc  
 3000  
 acgtgtcctg gtcactggtc ttataattg ttgtgcaata actaaaggct aaggactaga  
 3060  
 tgcactatcg tgtaaagaga ttacacatga ctgtaccatg ttgcacttaa tcaaatagta  
 3120  
 tgtggggatt taaaatcgct tgcattgttt cacaaaataa atatctcaat gtcaaatact  
 3180  
 aaaaaaaaaa aa  
 3192

<210> 4330

<211> 371

<212> PRT

<213> Homo sapiens

<400> 4330

Met	Ser	Gln	Pro	Lys	Gln	Lys	Glu	Leu	Ala	Gly	Ser	Val	Arg	Gln	Lys
1				5					10					15	
Met	Leu	Leu	Asp	Tyr	Ser	Val	Tyr	Met	Gly	Arg	Cys	Val	Pro	Gln	Glu
			20					25					30		
Ser	Arg	Ser	Pro	Gln	Arg	Ser	Pro	Leu	Gln	Ser	Ala	Glu	Ser	Ser	Pro
			35				40				45				
Thr	Ala	Gly	Lys	Lys	Leu	Pro	Glu	Val	Pro	Pro	Ser	Glu	Glu	Glu	Glu

```

      50              55              60
Gln Glu Ala Trp Val Asn Ala Leu Leu Gly Arg Ile Phe Trp Asp Phe
65              70              75              80
Leu Gly Glu Lys Tyr Trp Ser Asp Leu Val Ser Lys Lys Ile Gln Met
      85              90              95
Lys Leu Ser Lys Ile Lys Leu Pro Tyr Phe Met Asn Glu Leu Thr Leu
      100             105             110
Thr Glu Leu Asp Met Gly Val Ala Val Pro Lys Ile Leu Gln Ala Phe
      115             120             125
Lys Pro Tyr Val Asp His Gln Gly Leu Trp Ile Asp Leu Glu Met Ser
      130             135             140
Tyr Asn Gly Ser Phe Leu Met Thr Leu Glu Thr Lys Met Asn Leu Pro
145             150             155             160
Lys Leu Gly Lys Glu Pro Leu Val Glu Ala Leu Lys Val Gly Glu Ile
      165             170             175
Gly Lys Glu Gly Cys Arg Pro Arg Ala Phe Cys Leu Ala Asp Ser Asp
      180             185             190
Glu Glu Ser Ser Ser Ala Gly Ser Ser Glu Glu Asp Asp Ala Pro Glu
      195             200             205
Pro Ala Gly Glu Thr Asn Ser Ser Ser Gln Gly Glu Gly Tyr Val Gly
      210             215             220
Gly His Arg Thr Ser Lys Ile Met Arg Phe Val Asp Lys Ile Thr Lys
225             230             235             240
Ser Lys Tyr Phe Gln Lys Ala Thr Glu Thr Glu Phe Ile Lys Arg Xaa
      245             250             255
Ile Glu Glu Val Ser Asn Thr Pro Leu Leu Leu Thr Val Glu Val Gln
      260             265             270
Glu Cys Arg Gly Thr Leu Ala Val Asn Ile Pro Pro Pro Pro Thr Asp
      275             280             285
Arg Val Trp Tyr Gly Phe Arg Lys Pro Pro His Val Glu Leu Lys Ala
      290             295             300
Arg Pro Lys Leu Gly Glu Arg Glu Val Thr Leu Val His Val Thr Asp
305             310             315             320
Trp Ile Glu Lys Lys Leu Glu Gln Glu Phe Gln Lys Val Phe Val Met
      325             330             335
Pro Asn Met Asp Asp Val Tyr Ile Thr Ile Met His Ser Ala Met Asp
      340             345             350
Pro Arg Ser Thr Ser Cys Leu Leu Lys Asp Pro Pro Val Glu Ala Ala
      355             360             365
Asp Arg Pro
      370

```

&lt;210&gt; 4331

&lt;211&gt; 1355

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4331

gaaaaatatt ttaaccataa ggctcttcag cttcttcact gttccctctt ggacatacga  
60

ttaaaagatg gcagtttatt ttggcagtca ccaaagaggc caccctctcc aataaaattt  
120

gatttaaagt agcctttgca cctcagtttc cttcagaatg ctgcaaaaact atatgctaca  
180

gtatattgta ttccatttgc agaagaggac ttatcagcag atgccctctt gaatattctt  
 240  
 tcagaagtaa agattcagga attcaagcct tccaataagg ttgttcaaac agatgaaact  
 300  
 gcaaggaaac cagaccatgt tcctatttagc agtgaagatg agaggaatgc aattttccaa  
 360  
 ctagaaaagg ctattttatc taatgaagcc accaaaagtg accttcagat ggcagtgtt  
 420  
 tcatttgaaa aagatgatga tcataatgga cacatagatt tcatcacagc tgcatacaat  
 480  
 cttcgtgcca aaatgtacag cattgaacca gctgaccgtt tcaaaacaaa gcgcatagtc  
 540  
 ggtaaaatta tacctgctat agcaacaacc actgctacag tttctggctt ggttgccttg  
 600  
 gagatgatca aagtaactgg tggctatcca tttgaagctt acaaaaattg ttttcttaac  
 660  
 ttagccattc caattgtagt atttacagag acaactgaag taaggaaaac taaaatcaga  
 720  
 aatggaatat catttacaat ttgggatcga tggaccgtac atggaaaaga agatttcacc  
 780  
 ctcttggatt tcataaatgc agtcaaagag aagtatggaa ttgagccaac aatgggtgta  
 840  
 cagggagtca aaatgcttta tgttcctgta atgcttggtc atgcaaaaag attgaagtta  
 900  
 acaatgcata aacttgtaaa acctactact gaaaagaaat atgtggatct tactgtgtca  
 960  
 tttgctccag acattgatgg agatgaagat ttgccgggac ctccagtaag atactacttc  
 1020  
 agtcatgaca ctgattaata caagttgtct taacgttact ccaggaccac ttgattttgg  
 1080  
 aaagagtgca cttaattcag aagctaaaga aaatcagttc ataatactat ggattttctct  
 1140  
 ttcatthaagc cttaatttta agggaaacat cagtaagaaa ctgcactgaa gaattataaa  
 1200  
 acattttggg gcatagcata cacttgtcta acggttcaca cgtggctatg atcacaagca  
 1260  
 actttgaact ggaatgctat ttataaaaagt tttgtgtatt aatctgtgta ttaatctctc  
 1320  
 tggataaaaa gaaggaaaaa atatgtatga ccggt  
 1355

&lt;210&gt; 4332

&lt;211&gt; 345

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4332

Glu	Lys	Tyr	Phe	Asn	His	Lys	Ala	Leu	Gln	Leu	Leu	His	Cys	Phe	Pro
1				5				10						15	
Leu	Asp	Ile	Arg	Leu	Lys	Asp	Gly	Ser	Leu	Phe	Trp	Gln	Ser	Pro	Lys
			20				25					30			
Arg	Pro	Pro	Ser	Pro	Ile	Lys	Phe	Asp	Leu	Asn	Glu	Pro	Leu	His	Leu
		35				40					45				
Ser	Phe	Leu	Gln	Asn	Ala	Ala	Lys	Leu	Tyr	Ala	Thr	Val	Tyr	Cys	Ile

```

      50              55              60
Pro Phe Ala Glu Glu Asp Leu Ser Ala Asp Ala Leu Leu Asn Ile Leu
65              70              75              80
Ser Glu Val Lys Ile Gln Glu Phe Lys Pro Ser Asn Lys Val Val Gln
      85              90              95
Thr Asp Glu Thr Ala Arg Lys Pro Asp His Val Pro Ile Ser Ser Glu
      100             105             110
Asp Glu Arg Asn Ala Ile Phe Gln Leu Glu Lys Ala Ile Leu Ser Asn
      115             120             125
Glu Ala Thr Lys Ser Asp Leu Gln Met Ala Val Leu Ser Phe Glu Lys
      130             135             140
Asp Asp Asp His Asn Gly His Ile Asp Phe Ile Thr Ala Ala Ser Asn
145             150             155             160
Leu Arg Ala Lys Met Tyr Ser Ile Glu Pro Ala Asp Arg Phe Lys Thr
      165             170             175
Lys Arg Ile Ala Gly Lys Ile Ile Pro Ala Ile Ala Thr Thr Thr Ala
      180             185             190
Thr Val Ser Gly Leu Val Ala Leu Glu Met Ile Lys Val Thr Gly Gly
      195             200             205
Tyr Pro Phe Glu Ala Tyr Lys Asn Cys Phe Leu Asn Leu Ala Ile Pro
      210             215             220
Ile Val Val Phe Thr Glu Thr Thr Glu Val Arg Lys Thr Lys Ile Arg
225             230             235             240
Asn Gly Ile Ser Phe Thr Ile Trp Asp Arg Trp Thr Val His Gly Lys
      245             250             255
Glu Asp Phe Thr Leu Leu Asp Phe Ile Asn Ala Val Lys Glu Lys Tyr
      260             265             270
Gly Ile Glu Pro Thr Met Val Val Gln Gly Val Lys Met Leu Tyr Val
      275             280             285
Pro Val Met Pro Gly His Ala Lys Arg Leu Lys Leu Thr Met His Lys
      290             295             300
Leu Val Lys Pro Thr Thr Glu Lys Lys Tyr Val Asp Leu Thr Val Ser
305             310             315             320
Phe Ala Pro Asp Ile Asp Gly Asp Glu Asp Leu Pro Gly Pro Pro Val
      325             330             335
Arg Tyr Tyr Phe Ser His Asp Thr Asp
      340             345

```

&lt;210&gt; 4333

&lt;211&gt; 1278

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4333

```

cgccgcgagc gccgtctgct cagcgcccgg gtcaatagga gccagtcctt cgcaggcgctc
60
ctcggcagcc acgagcgggg gccaggagt ttcccgtctc tcagcccgcc ggggccccca
120
cggaagcccc ccgcgtctc ccgagtgtcc aggatgtttt ccgtggctca cccagccgcc
180
aaggtgccgc agccgagcg gctggacctg gtgtacacgg cgctgaagcg gggcctgacg
240
gcctacttgg aagtgcacca gcaggagcaa gagaaactcc aggggcagat aaggaggtcc
300

```

aagaggaatt cccgcttggg cttcctgtat gatctggaca agcaagtcaa gtccattgaa  
360  
cgcttctcgc gacgactgga gttccatgcc agcaagatcg atgagctgta tgaggcatac  
420  
tgtgtccagc ggcgtctccg ggatggtgcc tacaacatgg tccgtgccta caccactggg  
480  
tccccgggaa gccgagaggc ccgggacagc ctggcagagg ccactcgggg gcatcgcgag  
540  
tacacggagg taggggatgg gggcccatga agcagaggca cagggtgtgg cagggctagt  
600  
ggctggccct tgacccctc ctgtccctgc cctccctcc caagcatgtg tctgtggag  
660  
agcgagctgg aggcacagct ggcgagttt catctccgaa tgaaagggtt ggctggcttc  
720  
gccaggctgt gtgtaggcga tcagtatgag atctgcatga aatatgggag tcagcgctgg  
780  
aaactacggg gccgaattga gggtagtgga aagcagggtg gggacagtga agaaaccatc  
840  
tttctccctc tactcacgga atttctgtct attaaggtga cagaactgaa gggcctggcc  
900  
aaccatgtgg ttgtgggcag tgtctcctgt gagaccaagg acctgtttgc cgccctgccc  
960  
caggttgtgg ctgtggatat caatgacctt ggtaccatca agctcagcct ggaagtcaca  
1020  
tggagccctc tcgacaagga tgaccagccc tcagctgctt cttctgtcaa caaggcctcc  
1080  
acagtcacca agcgcttctc cacctatagc cagagccac cggacacacc ctcaactcgg  
1140  
gaacaggctt tctataacat gctgcgacgg caggaggagc tggagaatgg gacagcatgg  
1200  
tccctgtcat ctgaatcttc agacgactca tccagccac agctctcagg cactgcccgc  
1260  
cactcaccag cccctagg  
1278

&lt;210&gt; 4334

&lt;211&gt; 189

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4334

Arg	Pro	Gln	Arg	Arg	Leu	Leu	Ser	Ala	Arg	Val	Asn	Arg	Ser	Gln	Ser
1				5					10					15	
Phe	Ala	Gly	Val	Leu	Gly	Ser	His	Glu	Arg	Gly	Pro	Arg	Ser	Phe	Pro
			20					25					30		
Val	Phe	Ser	Pro	Pro	Gly	Pro	Pro	Arg	Lys	Pro	Pro	Ala	Leu	Ser	Arg
		35				40						45			
Val	Ser	Arg	Met	Phe	Ser	Val	Ala	His	Pro	Ala	Ala	Lys	Val	Pro	Gln
	50				55					60					
Pro	Glu	Arg	Leu	Asp	Leu	Val	Tyr	Thr	Ala	Leu	Lys	Arg	Gly	Leu	Thr
65				70					75					80	
Ala	Tyr	Leu	Glu	Val	His	Gln	Gln	Glu	Gln	Glu	Lys	Leu	Gln	Gly	Gln
				85				90					95		
Ile	Arg	Glu	Ser	Lys	Arg	Asn	Ser	Arg	Leu	Gly	Phe	Leu	Tyr	Asp	Leu

	100		105		110										
Asp	Lys	Gln	Val	Lys	Ser	Ile	Glu	Arg	Phe	Leu	Arg	Arg	Leu	Glu	Phe
	115		120		125										
His	Ala	Ser	Lys	Ile	Asp	Glu	Leu	Tyr	Glu	Ala	Tyr	Cys	Val	Gln	Arg
	130		135		140										
Arg	Leu	Arg	Asp	Gly	Ala	Tyr	Asn	Met	Val	Arg	Ala	Tyr	Thr	Thr	Gly
145			150		155									160	
Ser	Pro	Gly	Ser	Arg	Glu	Ala	Arg	Asp	Ser	Leu	Ala	Glu	Ala	Thr	Arg
			165		170									175	
Gly	His	Arg	Glu	Tyr	Thr	Glu	Val	Gly	Asp	Gly	Gly	Pro			
	180						185								

&lt;210&gt; 4335

&lt;211&gt; 1211

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4335

cacaacctgg acaagcgcag tgctcactag tgggagagga agggccaaga tctggctggg  
60  
gatggggagg agtggctccc cccacttaaa acatttgtgc cctctgtatc cccattccag  
120  
ctggccttgg gtgcggcact cgtgaatgta cagatccccc tgctcctggg ccagctggta  
180  
gaggtcgtgg ccaagtacac aagggaccac gtagggagtt tcatgactga gtctcagaat  
240  
ctcagcacc accctgttat cctctatggt gtccagggac tgctgacctt cgggtacctg  
300  
gtgctgctgt cccacgttgg cgagcgcacg gctgtggaca tgcggagggc cctcttcagc  
360  
tccctgctcc gacaagacat caccttcttt gacgccaata agacagggca gctggtgagc  
420  
cgcttgacaa ctgacgtgca ggagtttaag tcctccttca agcttgtcat ctcccagggg  
480  
ctgcgaagct gcacccaggt ggcaggtgac ctggtgtccc tgtccatgct gtcgacacgc  
540  
ctcacgctgc tgctgatggt ggccacacca gccctgatgg gagtgggcac cctgatgggc  
600  
tcaggcctcc gaaaattgtc tcgccagtgt caggagcaga tcgccagggc aatgggctga  
660  
gcagacgagg ccctgggcaa tgtgcggact gtgcgtgcct tcgccatgga gcaacgggaa  
720  
gaggagcgt atggggcaga gctggaagcc tgccgctgcc gggcagagga gctgggcccgc  
780  
ggcatgcct tgttccaagg gctttccaac atcgccttca actgcatggt cttgggtacc  
840  
ctatttattg ggggctccct tgtggccgga cagcagctga cagggggaga cctcatgtcc  
900  
ttcctggtgg cctcccagac agtgcaaage ttcctcctg ttgcaccctg tccgaattcc  
960  
cttcgctgc aggtgtgac actccatgca tggaggacc atccttgaca ggctgtgtga  
1020  
gctgcccttc cccatgctg ccacttccag ggatgacaag ctgaccctg tccccacaca  
1080



ccccaccctt atagcttatt gctttgcgtt ggtccaaaac caccgcgtca gctgagcctc  
 1140  
 tgggatgacc agagctgata accagacagc tcaaggcggg cctcccccca gaggctggag  
 1200  
 tgtgctcgcg a  
 1211

<210> 4336

<211> 325

<212> PRT

<213> Homo sapiens

<400> 4336

Trp	Glu	Arg	Lys	Gly	Gln	Asp	Leu	Ala	Gly	Asp	Gly	Glu	Glu	Trp	Leu
1				5					10					15	
Pro	Pro	Leu	Lys	Thr	Phe	Val	Pro	Ser	Val	Ser	Pro	Phe	Gln	Leu	Ala
			20					25					30		
Leu	Gly	Ala	Ala	Leu	Val	Asn	Val	Gln	Ile	Pro	Leu	Leu	Leu	Gly	Gln
		35					40					45			
Leu	Val	Glu	Val	Val	Ala	Lys	Tyr	Thr	Arg	Asp	His	Val	Gly	Ser	Phe
	50					55				60					
Met	Thr	Glu	Ser	Gln	Asn	Leu	Ser	Thr	His	Leu	Leu	Ile	Leu	Tyr	Gly
65					70					75				80	
Val	Gln	Gly	Leu	Leu	Thr	Phe	Gly	Tyr	Leu	Val	Leu	Leu	Ser	His	Val
			85					90						95	
Gly	Glu	Arg	Met	Ala	Val	Asp	Met	Arg	Arg	Ala	Leu	Phe	Ser	Ser	Leu
			100					105					110		
Leu	Arg	Gln	Asp	Ile	Thr	Phe	Phe	Asp	Ala	Asn	Lys	Thr	Gly	Gln	Leu
		115					120					125			
Val	Ser	Arg	Leu	Thr	Thr	Asp	Val	Gln	Glu	Phe	Lys	Ser	Ser	Phe	Lys
		130				135					140				
Leu	Val	Ile	Ser	Gln	Gly	Leu	Arg	Ser	Cys	Thr	Gln	Val	Ala	Gly	Cys
145					150					155				160	
Leu	Val	Ser	Leu	Ser	Met	Leu	Ser	Thr	Arg	Leu	Thr	Leu	Leu	Leu	Met
			165					170						175	
Val	Ala	Thr	Pro	Ala	Leu	Met	Gly	Val	Gly	Thr	Leu	Met	Gly	Ser	Gly
			180				185						190		
Leu	Arg	Lys	Leu	Ser	Arg	Gln	Cys	Gln	Glu	Gln	Ile	Ala	Arg	Ala	Met
		195				200					205				
Gly	Val	Ala	Asp	Glu	Ala	Leu	Gly	Asn	Val	Arg	Thr	Val	Arg	Ala	Phe
		210				215					220				
Ala	Met	Glu	Gln	Arg	Glu	Glu	Arg	Tyr	Gly	Ala	Glu	Leu	Glu	Ala	
225					230				235					240	
Cys	Arg	Cys	Arg	Ala	Glu	Glu	Leu	Gly	Arg	Gly	Ile	Ala	Leu	Phe	Gln
			245					250						255	
Gly	Leu	Ser	Asn	Ile	Ala	Phe	Asn	Cys	Met	Val	Leu	Gly	Thr	Leu	Phe
			260				265						270		
Ile	Gly	Gly	Ser	Leu	Val	Ala	Gly	Gln	Gln	Leu	Thr	Gly	Gly	Asp	Leu
		275					280					285			
Met	Ser	Phe	Leu	Val	Ala	Ser	Gln	Thr	Val	Gln	Ser	Phe	Leu	Arg	Val
		290				295					300				
Ala	Pro	Cys	Pro	Asn	Ser	Leu	Pro	Leu	Gln	Ala	Val	Thr	Leu	His	Ala
305					310					315					320
Trp	Lys	Asp	His	Pro											

325

&lt;210&gt; 4337

&lt;211&gt; 461

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4337

tctattatgt tgcctgatt acatatcagc aaaatgtttt tctggggcat tgtgcataaa  
60  
acaaaggaga aaacaacatc tctagccggc cagcgtgcct gtccctccct cccgcagagg  
120  
cctggggaggc tgagggtgag gaaggccagc tgtgctggct gcagagggct ttgctgtttc  
180  
tccacagagc agcaggctgc cccttccctt ctccctccct ccacctcacc tccatgggct  
240  
ccactggatg ggaaccatgt gcttgtttct cccacccta gactgggac tccctggggca  
300  
gaagaggctt cccaagtggc acagacagag ccaggctgac tgaatgtgag attcatgaat  
360  
gaacagtgat accaggcata gccctgccct ttagcaccct gagggccacg tggagttttc  
420  
tgcaacactg cccgccgtgt tccagcatct gccttccact t  
461

&lt;210&gt; 4338

&lt;211&gt; 118

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4338

Met Asn Leu Thr Phe Ser Gln Pro Gly Ser Val Cys Ala Thr Trp Glu  
1 5 10 15  
Ala Ser Ser Ala Pro Gly Asp Pro Ser Leu Gly Val Gly Arg Thr Ser  
20 25 30  
Thr Trp Phe Pro Ser Ser Gly Ala His Gly Gly Glu Val Glu Gly Gly  
35 40 45  
Arg Arg Glu Gly Ala Thr Cys Cys Ser Val Glu Lys Gln Gln Ser Pro  
50 55 60  
Leu Gln Pro Ala Gln Leu Ala Phe Leu Thr Leu Ser Leu Pro Gly Leu  
65 70 75 80  
Cys Gly Arg Glu Gly Gln Ala Arg Trp Pro Ala Arg Asp Val Val Phe  
85 90 95  
Ser Phe Val Leu Cys Thr Met Pro Gln Lys Asn Ile Leu Leu Ile Cys  
100 105 110  
Asn Gln Asp Asn Ile Ile  
115

&lt;210&gt; 4339

&lt;211&gt; 5269

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4339

nnagccatgc ccacgaactt tacggtggtg cccgtggagg ctcacgccga cggcggcggg  
60  
gacgagactg ccgagcggac ggaggctccg ggcacccccg agggccccga gcccagcgc  
120  
cccagcccgg gagatggaaa tccaagagaa aacagcccat tcctcaacaa tgtcgagggtg  
180  
gaacaagaga gcttctttga aggaagaac atggcacttt tcgaggagga gatggacagt  
240  
aaccccattg tgcctcgcgt gctcaacaag ctggccaact acaccaacct gagccagggc  
300  
gtggtggagc acgaggagga caggagagac cggcggcggg aggccaaggc tccgcgcagt  
360  
ggcaccttca tcggcgtcta cctgccgtgc ctgcagaaca tcctgggcgt catcctcttc  
420  
ctgcgcctga cgtggatcgt gggggtggct ggtgtcctgg agtccttcct catcgtggcc  
480  
atgtgctgca catgtacaat gctgaccgcc atttccatga gtgcgatcgc taccaacggt  
540  
gtggtcccag ctggcgggtc ctactacatg atatcgcgct cgtggggacc cgagtttggg  
600  
ggcgtgtcgt gcctctgctt ctacctgggc acgacgtttg cagggggccat gtatatattt  
660  
gggaccatcg agatttttct gacgtacatc tccccgggtg cggccatctt ccaggcggag  
720  
gctgcagggtg gcgaggcggc cgccatgctg cacaacatgc gtgtgtacgg cacgtgcacg  
780  
ctcgtgtcga tggccctggt ggtcttcgtg ggcgtcaagt atgtcaacaa gctggcgctg  
840  
gtcttctctg cctgcgtcgt gctgtccatc ctggccatct atgccggcgt catcaagtct  
900  
gccttcgacc ccccgacat cccggtctgc ctctgggga accgcacgct gtcacggcgc  
960  
agcttcgatg cctgcgtcaa ggcctacggc atccacaaca actcagccac ctccgcgctc  
1020  
tggggcctct tctgcaacgg ctcccagccc agcgccgcct gtgacgagta cttcatccag  
1080  
aacaacgtca ccgaaatcca gggcatcccg ggcgcggcca gtggtgtctt cctggagaac  
1140  
ctgtggagta cgtacgcga cgcgggggcg tttgtggaga agaaagggtg gccctcgggtg  
1200  
cccgtggcag aggagagccg tgccagcgca ctgccctacg tgcacaccga catcgcggcc  
1260  
tccttcaccc tgctggttgg catctacttc ccttcctga ccggtatcat ggcgggttca  
1320  
aacgggtccg gggacctcaa ggatgcacag aagtccatcc ccacggggac catcctggcc  
1380  
atagtgaaga cgtctttcat ctatctctcc tgcattgtgc tgtttggggc ctgcattgaa  
1440  
ggcgtggtct tacgagataa gttcggggag gccctgcagg ggaacctggt catcggcatg  
1500  
ctggcctggc cctccccctg ggtcatcgtc atcggtcct tcttctccac ctgcggtgac  
1560  
ggcctgcaga cctcacggg ggcaccgcgc ctactgcagg ccattgcccg tgacggcatc  
1620

gtcccccttcc tgcaggtggt tggccacggg aaggccaacg gggagcccac gtgggcgctg  
1680  
ctgctgacag tcctcatctg cgagactggc atcctcatcg cctctctgga cagcgtggcc  
1740  
ccgatcctct ccatgttctt cctcatgtgc tacctgttcg tgaacctggc ctgcgccgtg  
1800  
cagaccctgc tacgtacccc caactggcgt ccacgcttca agttctacca ctggaccctg  
1860  
tcctttcttg gtatgagcct gtgcctggcg ctgatgttca tctgctcctg gtactacgcg  
1920  
ctgtccgcca tgctcatcgc tggctgcatc tacaagtaca tcgagtaccg cggggccgag  
1980  
aaggagtggg gcgatggcat ccgtggccta tccctgaacg ccgcccgcta cgccctgctg  
2040  
cgctgggagc acggtccccc ccacaccaag aactggaggc cccaggtgct ggtgatgctg  
2100  
aacctggagc cggagcaggc cgtgaagcac ccccgctgc tgccttcac gtcgcagctg  
2160  
aaggccggca agggcctgac catcgtgggc tcggtgctgg aggggacgta cctggacaag  
2220  
cacatggagg ctacgaggc cgaggagaac atacgggtccc taatgagcac agagaagacc  
2280  
aagggttct gccagctggt ggtctcgcc agcctgccc atggcatgtc ccacctgatc  
2340  
cagtcggccg gcctgggcgg cctgaagcac aacacggcgc tcatggcctg gcccgcattc  
2400  
tggaagcagg aggacaacc cttctcctgg aagaactttg tagacaccgt ccgcgacacc  
2460  
accgccgcg accaggctct gctggtggcc aagaacgtcg actcgtttcc gcaaaaccag  
2520  
gagcgttcg gcgggggcca catcgacgtg tgggtgatcg tgcacgacgg cggcatgctc  
2580  
atgctgctgc ccttcctgct gcgccagcac aagggtgtgga ggaagtgccg gatgcgtatc  
2640  
ttcacctggg cccaggtgga cgacaacagc atccagatga agaaggacct gcagatgttc  
2700  
ttgtatcact tgcgcatcag cgccgagggt gaggtggtgg agatggttga aaacgacata  
2760  
tctgctttca cctacgagag gacactaatg atggagcaga ggctgcagat gctgaagcag  
2820  
atgcagctgt ccaagaacga gcaggagcga gaggcccagc tgatccacga caggaacacc  
2880  
gcgtcccaca ccgcggcggc agccaggacc caagcgccgc ctacgccaga caaggtgcag  
2940  
atgacctgga ccaggagaa gctgatcgtc gagaagtaca ggagcagaga caccagccta  
3000  
tccggtttca aagacctct cagcatgaag ccagaatggg gaaacctgga ccagtccaac  
3060  
gtcaggcgga tgcacacggc tgtgaagctc aatggcgtcg tcctcaacaa gtcccaggat  
3120  
gcgcagctgg tcctgctcaa catgccaggt cctcccaaaa accggcaggg agacgagaac  
3180  
tacatggagt ttcttgaagt cctgaccgag gggctgaaca gagtctcct ggtcaggggt  
3240

ggcgccggg aggtgatcac catctactcc taatgcccac cagcatcacg gcactctggg  
3300  
acaggcacgg aggacggcgt gggcagcctg ggcctgggct tggcccaggg aaacagacgg  
3360  
cagacacacc tgteccccag tgatgccgcc caagctgccc atggggcttc ctacggaagt  
3420  
ttctaggccc gtcacctagg gctctcctgt tcagccttaa caggctcagc aaatcagggc  
3480  
gtggctggac gatttccttg catctgaggg cagacgctgc taccggagtg acctggacgt  
3540  
ggccagatct tctcgcaggt cacaagaagc cagtgaagccc ttgccttggg ttctggaagt  
3600  
tcttttcctt ggctggattt acccagtggg taggttgcat ttctaccca tccagaacat  
3660  
tcttggaaga gcacccggag ctgaagctgt ccctgatgat gaaggtgaaa cgtcagccct  
3720  
ggccatggct ccgctcaggg ccccggtcac ctccgagtca ctctgttcct tgactgtctt  
3780  
tgtgtttctg tacctcaagg cactgaagct ggaggactct gtccatgccc gtgtcaccct  
3840  
cgtgtgggag cctctgggct cggcaggtcc acatttcatg agctgaggcg tgggccaggg  
3900  
ccatctggaa agggaactcg gcttttcag aacgtggtgg atcatctgtc ggggtgtgtg  
3960  
tgaacacgtt cagttcatca gggcctacgc tccgggaagg gggccccagc tgtggctctg  
4020  
ccatgccggg ctgtgtttgc agctgtccga gtctccatcc acctttagaa aaccagccac  
4080  
ttcttttcat aagcactgac agggcccagc ccacagccac aggtgcatc agtgccctac  
4140  
gcaggcaaat gcactgaaac ccaggggcac acgcgcgcag agtgaacagt gagttcccc  
4200  
gacagccac gacagccagg actgcccctc ccaccccacc ccaccccagg agcacggcac  
4260  
acagttcagc ctctgagctg gctcacacgt gccatcccca ccccggtgct ccagggaagg  
4320  
aggacacgga cccgacgtgg gaggtcctca ggcagcagtg gcgcctgggtg tcaggctctg  
4380  
ctggctgagt cccgggcgtc ccctgccatg gctgtgctt tgcattggagg cggcgggtgg  
4440  
actgaagaga tagctttcaa gggccaaca ctttgcaact cggctggctg tgagtttctg  
4500  
ctttgtaggt tgtggtcaca tttgcaggct gcgggcagtg gcaccgactt gggcctcct  
4560  
ttctatgtgg catatttatt tatttaaaca cccagggag ttacgtggta acaaggttgt  
4620  
ccataaagag gttgcttcta tatactagag gcccagatg gccaggcctt gggctacgtc  
4680  
tggcttgcatt ggtctcccaa ggggaatcag cccatcaaca aagttcaaat cggggcagag  
4740  
gctgcacttg tgccccaga tgtttctgag gagccagact agggctggca ttgctgtaga  
4800  
gtgacggctg ctgcccagag cgtgtcccag acatcacagc ggggctcagc agttcccaca  
4860

gcctctgcct gccttggtta agcatgagtt aagcagcaaa acgtctctcc atgtctggat  
 4920  
 ggggcccggca ggtcctgtgt cccctgcacc tggaggagag caggctagag gcacagcggc  
 4980  
 cacatggtgc tggctctgaa cgttggttgg tggctggaaa acagccctgc ttctgagggc  
 5040  
 cgctcagttc tgcacacgaa accacctcct gagggctcag ctctgcccc gccctgggct  
 5100  
 gcagcctctg cagcaagca ccaggcatcc tttgtgttgt caactccgtg taaccagtaa  
 5160  
 ctacagccat ttacaattga ctccgtttcc tttttagagt ttccctgtct gtctgtgtta  
 5220  
 gtagaaaaat aaaatcctat gaaatctgaa aaaaaaaaaa aaaaaaaaaa  
 5269

<210> 4340

<211> 1088

<212> PRT

<213> Homo sapiens

<400> 4340

Met	Pro	Thr	Asn	Phe	Thr	Val	Val	Pro	Val	Glu	Ala	His	Ala	Asp	Gly
1			5					10					15		
Gly	Gly	Asp	Glu	Thr	Ala	Glu	Arg	Thr	Glu	Ala	Pro	Gly	Thr	Pro	Glu
		20					25					30			
Gly	Pro	Glu	Pro	Glu	Arg	Pro	Ser	Pro	Gly	Asp	Gly	Asn	Pro	Arg	Glu
		35				40					45				
Asn	Ser	Pro	Phe	Leu	Asn	Asn	Val	Glu	Val	Glu	Gln	Glu	Ser	Phe	Phe
50					55					60					
Glu	Gly	Lys	Asn	Met	Ala	Leu	Phe	Glu	Glu	Glu	Met	Asp	Ser	Asn	Pro
65				70						75				80	
Met	Val	Ser	Ser	Leu	Leu	Asn	Lys	Leu	Ala	Asn	Tyr	Thr	Asn	Leu	Ser
			85					90					95		
Gln	Gly	Val	Val	Glu	His	Glu	Glu	Asp	Glu	Glu	Ser	Arg	Arg	Arg	Glu
		100					105					110			
Ala	Lys	Ala	Pro	Arg	Met	Gly	Thr	Phe	Ile	Gly	Val	Tyr	Leu	Pro	Cys
		115				120					125				
Leu	Gln	Asn	Ile	Leu	Gly	Val	Ile	Leu	Phe	Leu	Arg	Leu	Thr	Trp	Ile
130					135					140					
Val	Gly	Val	Ala	Gly	Val	Leu	Glu	Ser	Phe	Leu	Ile	Val	Ala	Met	Cys
145				150					155					160	
Cys	Thr	Cys	Thr	Met	Leu	Thr	Ala	Ile	Ser	Met	Ser	Ala	Ile	Ala	Thr
			165					170					175		
Asn	Gly	Val	Val	Pro	Ala	Gly	Gly	Ser	Tyr	Tyr	Met	Ile	Ser	Arg	Ser
		180						185				190			
Leu	Gly	Pro	Glu	Phe	Gly	Gly	Ala	Val	Gly	Leu	Cys	Phe	Tyr	Leu	Gly
		195				200					205				
Thr	Thr	Phe	Ala	Gly	Ala	Met	Tyr	Ile	Leu	Gly	Thr	Ile	Glu	Ile	Phe
		210				215					220				
Leu	Thr	Tyr	Ile	Ser	Pro	Gly	Ala	Ala	Ile	Phe	Gln	Ala	Glu	Ala	Ala
225				230						235				240	
Gly	Gly	Glu	Ala	Ala	Ala	Met	Leu	His	Asn	Met	Arg	Val	Tyr	Gly	Thr
			245					250					255		
Cys	Thr	Leu	Val	Leu	Met	Ala	Leu	Val	Val	Phe	Val	Gly	Val	Lys	Tyr

3535

```

        690                695                700
Ala Val Lys His Pro Arg Leu Leu Ser Phe Thr Ser Gln Leu Lys Ala
705                710                715                720
Gly Lys Gly Leu Thr Ile Val Gly Ser Val Leu Glu Gly Thr Tyr Leu
        725                730                735
Asp Lys His Met Glu Ala Gln Arg Ala Glu Glu Asn Ile Arg Ser Leu
        740                745                750
Met Ser Thr Glu Lys Thr Lys Gly Phe Cys Gln Leu Val Val Ser Ser
        755                760                765
Ser Leu Arg Asp Gly Met Ser His Leu Ile Gln Ser Ala Gly Leu Gly
        770                775                780
Gly Leu Lys His Asn Thr Val Leu Met Ala Trp Pro Ala Ser Trp Lys
785                790                795                800
Gln Glu Asp Asn Pro Phe Ser Trp Lys Asn Phe Val Asp Thr Val Arg
        805                810                815
Asp Thr Thr Ala Ala His Gln Ala Leu Leu Val Ala Lys Asn Val Asp
        820                825                830
Ser Phe Pro Gln Asn Gln Glu Arg Phe Gly Gly Gly His Ile Asp Val
        835                840                845
Trp Trp Ile Val His Asp Gly Gly Met Leu Met Leu Leu Pro Phe Leu
        850                855                860
Leu Arg Gln His Lys Val Trp Arg Lys Cys Arg Met Arg Ile Phe Thr
865                870                875                880
Val Ala Gln Val Asp Asp Asn Ser Ile Gln Met Lys Lys Asp Leu Gln
        885                890                895
Met Phe Leu Tyr His Leu Arg Ile Ser Ala Glu Val Glu Val Val Glu
        900                905                910
Met Val Glu Asn Asp Ile Ser Ala Phe Thr Tyr Glu Arg Thr Leu Met
        915                920                925
Met Glu Gln Arg Ser Gln Met Leu Lys Gln Met Gln Leu Ser Lys Asn
        930                935                940
Glu Gln Glu Arg Glu Ala Gln Leu Ile His Asp Arg Asn Thr Ala Ser
945                950                955                960
His Thr Ala Ala Ala Ala Arg Thr Gln Ala Pro Pro Thr Pro Asp Lys
        965                970                975
Val Gln Met Thr Trp Thr Arg Glu Lys Leu Ile Ala Glu Lys Tyr Arg
        980                985                990
Ser Arg Asp Thr Ser Leu Ser Gly Phe Lys Asp Leu Phe Ser Met Lys
        995                1000                1005
Pro Glu Trp Gly Asn Leu Asp Gln Ser Asn Val Arg Arg Met His Thr
        1010                1015                1020
Ala Val Lys Leu Asn Gly Val Val Leu Asn Lys Ser Gln Asp Ala Gln
1025                1030                1035                1040
Leu Val Leu Leu Asn Met Pro Gly Pro Pro Lys Asn Arg Gln Gly Asp
        1045                1050                1055
Glu Asn Tyr Met Glu Phe Leu Glu Val Leu Thr Glu Gly Leu Asn Arg
        1060                1065                1070
Val Leu Leu Val Arg Gly Gly Gly Arg Glu Val Ile Thr Ile Tyr Ser
        1075                1080                1085

```

&lt;210&gt; 4341

&lt;211&gt; 693

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens



&lt;400&gt; 4341

agatctaagt agttgtttta tattgagaaa gcaacaatgt ttctcgaata agttgatgtt  
 60  
 gatttttaaata tataagcttt aaagaatttt ttttctagaa aaaggggatg gaaaaaaaaag  
 120  
 gacctgaggg agccatatgc atcaagttag tgtttctcca taacagaata tttataagag  
 180  
 aacatgtata gtgccctctt ttgagttagt ccgacagaca ccaagccctc cttttcacca  
 240  
 agtcccaggc ttgcattcca gcctcttgag ctctgccctc tctcaggtgg atctttgtgt  
 300  
 tggaccttac gtttcagcaa cctcaccatg gccacataac ccacaacctt ttaaaacagt  
 360  
 ttctttcata gcaatccctg tttctgccag acagatctaa aatgggagtt tctcactgtg  
 420  
 tttatctgat ctgcacactt tatatccagc tgttttggca cttttacgtt ttcttcacct  
 480  
 ttggttttgg tttgcaaatt cttacacctt ctctccaagc ggagggcaca ctgtggtcaa  
 540  
 aatcacttat tttattagga aaaagaggta actgttccaa agtgtagtgt cctttgttga  
 600  
 aggaggaggg atgtaagcat agattgttc ttgtttctgg ctattctcag ctcaagccat  
 660  
 gtttaattca ttctttgtaa aagccttcaa ttg  
 693

&lt;210&gt; 4342

&lt;211&gt; 103

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4342

Met	Val	Arg	Leu	Leu	Lys	Arg	Lys	Val	Gln	His	Lys	Asp	Pro	Pro	Glu
1				5					10					15	
Arg	Gly	Gln	Ser	Ser	Arg	Gly	Trp	Asn	Ala	Ser	Leu	Gly	Leu	Gly	Glu
			20					25					30		
Lys	Glu	Gly	Leu	Val	Ser	Val	Gly	Ile	Thr	Gln	Lys	Arg	Ala	Leu	Tyr
			35				40					45			
Met	Phe	Ser	Tyr	Lys	Tyr	Ser	Val	Met	Glu	Lys	His	Ser	Leu	Asp	Ala
	50				55						60				
Tyr	Gly	Ser	Leu	Arg	Ser	Phe	Phe	Phe	His	Pro	Leu	Phe	Leu	Glu	Lys
65				70					75					80	
Lys	Phe	Phe	Lys	Ala	Tyr	Asn	Leu	Lys	Ser	Thr	Ser	Thr	Tyr	Ser	Arg
			85				90							95	
Asn	Ile	Val	Ala	Phe	Ser	Ile									
			100												

&lt;210&gt; 4343

&lt;211&gt; 499

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4343

caattggaag gccgcgcctc aggaaaacag gatggtagtt gaatggcacc gagccgcccc  
 60  
 aggtcgccgc cgtcacctcc tcagcggctc cgagtcgtgc gaggcagggg accctttgcc  
 120  
 ttcagaacag ggcgcccgcg gttggggcgcg tggacagagt cctccggcgg ccgcgccgct  
 180  
 gggccaggcg gagagaggcg gacggacttc aggggaggcc cgggccacgc cgcggaaact  
 240  
 acccgactcc ctggaggcgg ccaggaccga ccctgtcccg acaaaatgga gttccccgtg  
 300  
 tggcttcagc tcgcggcgcg ttcccagagc tcctcagtga tccggcttcc ggattgttcg  
 360  
 cctttcatct catttgccgt tgtccaaatt ctaatttaaa actcatgtgt tacttgcgtg  
 420  
 aagggttaaca aacgtacacc gcaaactgga taaagggata acttttatgt tgtgtatgtt  
 480  
 ttaccacaat aaaaataaa  
 499

<210> 4344

<211> 118

<212> PRT

<213> Homo sapiens

<400> 4344

Met	Ala	Pro	Ser	Arg	Pro	Arg	Leu	Pro	Pro	Ser	Pro	Pro	Gln	Arg	Leu
1				5					10					15	
Arg	Val	Val	Arg	Gly	Arg	Gly	Pro	Phe	Ala	Phe	Arg	Thr	Gly	Arg	Pro
			20				25						30		
Thr	Leu	Gly	Ala	Trp	Thr	Glu	Ser	Ser	Gly	Gly	Arg	Ala	Ala	Gly	Pro
		35					40					45			
Gly	Gly	Glu	Arg	Arg	Thr	Asp	Phe	Arg	Gly	Gly	Pro	Gly	His	Ala	Ala
		50				55					60				
Glu	Thr	Thr	Arg	Leu	Pro	Gly	Gly	Gly	Gln	Asp	Arg	Pro	Cys	Pro	Asp
65				70					75					80	
Lys	Met	Glu	Phe	Pro	Val	Trp	Leu	Gln	Leu	Ala	Ala	Arg	Ser	Gln	Ser
			85					90						95	
Ser	Ser	Val	Ile	Arg	Leu	Ser	Asp	Cys	Ser	Pro	Phe	Ile	Ser	Phe	Ala
			100				105						110		
Val	Val	Gln	Ile	Leu	Ile										
			115												

<210> 4345

<211> 349

<212> DNA

<213> Homo sapiens

<400> 4345

gcgtctatcc cagactaccg gggccctaata ggagtgtgga cactgcttca gaaagggaga  
 60  
 agcgttagtg ctgccgacnc tgagcgagcc gagccaaccc tcaccacat gagcatcacc  
 120  
 cgtctgcatg agcagaagct ggtgcagcat gtgggtgtctc agaactgtga cgggtccac  
 180

ctgaggagtg ggctgncgcg cacggccatc tccgagctcc acgggaacat gtacattgaa  
 240  
 ggagtacgtg cgggtgttcg atgtgacgga gcgcactgcc ctccacagac accagacagg  
 300  
 ccggacctgc cacaagtgtg ggacccagct gcgggacacc attgtgcac  
 349

<210> 4346

<211> 116

<212> PRT

<213> Homo sapiens

<400> 4346

Ala	Ser	Ile	Pro	Asp	Tyr	Arg	Gly	Pro	Asn	Gly	Val	Trp	Thr	Leu	Leu
1				5					10					15	
Gln	Lys	Gly	Arg	Ser	Val	Ser	Ala	Ala	Asp	Xaa	Glu	Arg	Ala	Glu	Pro
			20					25					30		
Thr	Leu	Thr	His	Met	Ser	Ile	Thr	Arg	Leu	His	Glu	Gln	Lys	Leu	Val
		35					40					45			
Gln	His	Val	Val	Ser	Gln	Asn	Cys	Asp	Gly	Leu	His	Leu	Arg	Ser	Gly
	50					55					60				
Leu	Xaa	Arg	Thr	Ala	Ile	Ser	Glu	Leu	His	Gly	Asn	Met	Tyr	Ile	Glu
65					70					75				80	
Gly	Val	Arg	Ala	Gly	Val	Arg	Cys	Asp	Gly	Ala	His	Cys	Pro	Pro	Gln
			85						90					95	
Thr	Pro	Asp	Arg	Pro	Asp	Leu	Pro	Gln	Val	Trp	Asp	Pro	Ala	Ala	Gly
			100					105						110	
His	His	Cys	Ala												
			115												

<210> 4347

<211> 353

<212> DNA

<213> Homo sapiens

<400> 4347

gcgcgcctgc ccgctctcgc aacaccggcc acacggcgac gcgcgcgagg ggccggacagg  
 60  
 gcactaggag gaggcgattc aggtgagac tcctccggga tctcgacgcc ccgaccgccg  
 120  
 ccccggggct cgcgcgacgc ggggtccagct gcacaaagcc gtccgctccg tcccgccgag  
 180  
 gccaggcagt gcagaggcag gagccgccgt cgggtagcga gatcttcact gccgagccca  
 240  
 agcgcgcgcc cagggcgtgg agggcgggcg ggcccaggcg gcagcgctgg gtgccccggt  
 300  
 ctctagcgtc taagggtagc agctttaaga gcggcccttc agggaaggga tcc  
 353

<210> 4348

<211> 72

<212> PRT

<213> Homo sapiens

&lt;400&gt; 4348

Asp Ser Ser Gly Ile Ser Thr Pro Arg Pro Pro Pro Arg Gly Ser Arg  
 1 5 10 15  
 Ala Ala Gly Pro Ala Ala Gln Ser Arg Pro Leu Arg Pro Ala Glu Ala  
 20 25 30  
 Arg Gln Cys Arg Gly Arg Ser Arg Arg Arg Val Ala Arg Ser Ser Leu  
 35 40 45  
 Pro Ser Pro Ser Ala Arg Pro Gly Arg Gly Gly Arg Pro Gly Pro Gly  
 50 55 60  
 Gly Ser Ala Gly Cys Pro Gly Leu  
 65 70

&lt;210&gt; 4349

&lt;211&gt; 2040

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4349

nttttttttt ttttgagata taaaaatctg tatttatatt acaatgacat aaggacacag  
 60  
 cacggccccc acggtggaca ggtggccggg ggcccccttc cccctctagc gcacgcccc  
 120  
 ctcaccggca ccaggccctc gtgtggcccc cgactctggc acggaacctg ccctagtgcc  
 180  
 caacatggac ctggggccac cctgctggcc gagggtcagg gtcctctgtg caggcagtgg  
 240  
 ggaggggggtc ccaggttccc tgacagaggg aggcagggca cgggggagcc tgcctcacc  
 300  
 agcggacagc acggggccggg gcagacagag caggggaccct agggccacag accggtacag  
 360  
 ggttccacca cccggggaca caggcccaag caccgtgcc ctaagatggg gtctgcagag  
 420  
 gcaaagcctt gctgcagcct ctcccactct gcgaggatgg cgggggtctg ctatgtggtt  
 480  
 tgcggggggtt atcctgggtat gcgggagctg ccttccaata aggctgggga acccaagcct  
 540  
 gagtctgggt gctcagtggc cgagagcact ggtgtgggct gggagggcac acgcagaggc  
 600  
 tcaggagccc cgggctctgt tctgcttctg tctgctctct atagacacgg tgatggcctc  
 660  
 ttggtccctg cagcctccag tgatggcagc ctggggccct gacagggagc agtgggaggt  
 720  
 tggagcatgt ggtgactcct agcacgggcc cccaccagt gggcaacccc tcaccacct  
 780  
 gctgatggca gggaggggca gctgaacagc acccgggtg gctgagactg cctcccagtc  
 840  
 cacgtgggaa ccacggcctc aagagccaca ggctgagctg cggggagggt gggctgaggg  
 900  
 gccaccactg gtcaccgggt ggattctgct ggtcagagat gagagcagaa gccctagct  
 960  
 gcctcaggca ctggagggtg gggcaggag ctggtgcttc aagaattgag ggcagggaca  
 1020  
 cgaccacctc agggccctgc agtgctggct ggggaagcaa gcttttacac acggcccgcc  
 1080

ttgctcggag gtgccacggt gtttgaaatg aagcctgggg ggacagactc aggcaggcag  
 1140  
 gggaagctcc tttctgggca cccctggacc ccagtggggc cggaaggaga tgcagacagg  
 1200  
 cctcctcaca accacccgca acgcgttcgg atgccccca gctccaggca ccatgcccc  
 1260  
 tacagcctgc agggcaggtt ctgtgccaga gttgtttcca gggaccccct tccgccacag  
 1320  
 tgggcccccc atcctggggc gtctatgcgt acgactgaaa atagacacga attttcccca  
 1380  
 tgatatggga attggctaca gatgtaccag aggcacggca ggcactgcta tgggccagcc  
 1440  
 ccaaggacag aggacgtcag gaaggaaagg cgggtgcaag cctcctggtg ccaggcctgc  
 1500  
 accacccagc gagcacagtc ttcattggct gccagtgtct gaaacctgga accctcgctt  
 1560  
 agggccaggaa gcagggggct cgagtcaggt gacaggtgag aatccatctc tctagtgagc  
 1620  
 aagcaggccc ctgccagcca ctggggaggg caacactggg gaccaggtca cagccccctc  
 1680  
 gtgccacca caggggcctg gctgcctgc ctccaggaag ccctggctgc cgggaggggc  
 1740  
 tgcccacagg agatgggagg acagcactag ctgggcaggc ctggggcacc ctgagccacg  
 1800  
 agggacatgc tgggtgggaag ggcaaggcct gacacaagac acaaggcaca ctttgacgac  
 1860  
 gtgacggagg gacaggtccc tgagacgctg ggtggctccc acccctcagc aaacaaggac  
 1920  
 gcaacaacag ctaggaaaat agaatacaaa aatctggtac aggaaacaga ggcggcacag  
 1980  
 aacctgcctt gcaggctgta gggggcatgg tgcttgagc tgaggggcat ccgaacgcgt  
 2040

<210> 4350

<211> 113

<212> PRT

<213> Homo sapiens

<400> 4350

Xaa	Phe	Phe	Phe	Leu	Arg	Tyr	Lys	Asn	Leu	Tyr	Leu	Tyr	Tyr	Asn	Asp
1				5					10					15	
Ile	Arg	Thr	Gln	His	Gly	Pro	His	Gly	Gly	Gln	Val	Ala	Gly	Gly	Pro
			20					25					30		
Phe	Pro	Pro	Leu	Ala	His	Ala	Pro	Leu	Thr	Gly	Thr	Arg	Pro	Ser	Cys
		35				40					45				
Gly	Pro	Arg	Leu	Trp	His	Gly	Thr	Cys	Pro	Ser	Ala	Gln	His	Gly	Pro
	50				55					60					
Gly	Ala	Thr	Leu	Leu	Ala	Glu	Gly	Gln	Gly	Pro	Leu	Cys	Arg	Gln	Trp
65					70				75					80	
Gly	Gly	Gly	Pro	Arg	Phe	Pro	Asp	Arg	Gly	Arg	Gln	Gly	Thr	Gly	Glu
			85					90					95		
Pro	Ala	Ser	Pro	Ser	Gly	Gln	His	Gly	Pro	Gly	Gln	Thr	Glu	Gln	Gly
			100					105					110		

Pro

&lt;210&gt; 4351

&lt;211&gt; 4703

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4351

nnntttttttt tttttttttt ttttttaaaga aataaattta ctttaatggt actttcaaaa  
60  
agactaatcc ataacaaatt aagttatact gtatttcctt tgctaccag aaccacaggg  
120  
ctgggtgtca acacatattg aagaaatgta agcaaaatac agaaagtgat gattttcaaa  
180  
aggaagagaa gaaactcctt ttcaacaaac actttatatc atttattaat gcagtataca  
240  
ttagatctaa aatctgcagt ttctaagcac accatgttta gatctttcag atccttctgc  
300  
agtttttaggt tatttctaca gaggtacctt taagtgaatg aataccacat tctgtaattc  
360  
ctgaaaatat agtacagagt gaaatgattt aaatataatt taggcacata ttgattatga  
420  
aaatagatta tctctcaata caatacttct ctgtcttggt aaaaataata aagcaaagaa  
480  
aataattcat ttctgaagtt gctttccttc acttgtaaag gtctgatctc ctcccactat  
540  
gcatatgtac cctttactgt taaggaaagc tttgcatatg tagatataga agaataagct  
600  
acgtaaatac taaagatatg tcattctccc aaaggagaca cagggtggtt tcaatgattc  
660  
cttgcccat gttgatgagt ctgtagaatt cagaacccat ttggacacag ctaatatccc  
720  
tgctcttggg gtagaaaata aggacaccaa gtcattggta gggagggtaca ggcccttcct  
780  
ctgctgctgc agagagagaa tgactcaaga aaattgggct aaaatttggt taaaaaaaaa  
840  
aaaccacaaa aaaataagta aaagaatcac aggtgctgac tgattgataa ttacatcttg  
900  
gaccagccaa atgcctttat ttttacgtct atttttttgg tggctgtaat caaatgtgtg  
960  
tttaaaattc ctcatccttc actgtagggt tctagctgca attatattac attgcctttt  
1020  
agcaggcaac tctaccatat tcactcatat aagctttgat tgcagtagct ctggatttag  
1080  
tatctatttc taagctggcc ctatgtaaac tatttggtat ttgaattaaa tgaatattaa  
1140  
tgatgcacct tggttttttt ggttttgaag tatcttccta tgcttggtgct gactgtatga  
1200  
gaaaactagg ctaatagtgt aaatagatag aattgcttga tctgggtgtg agtggaactt  
1260  
gcctagaatg aaattctgag aaatgctcat ttgtaagtgt tgtagtgata ggtaagttat  
1320  
tcctccatcc agagttacac tgtaccttg gaatgacagt gatgtacaat gatgtctttc  
1380

tttccactct gtctcaatca gtaagaactg gatattactt taatttagct actgttctgt  
1440  
cctaaaaagt aacattata aaaatgaacc tgaaaagagt cttagggagt ctgatctcac  
1500  
catattcata cgggtgtgaca ggtattttaa gaggggaggc atcactaaag ctatttataa  
1560  
acctgaacaa ccttttccaa gttttcataa agttttaaca atttaaataat ccatactgca  
1620  
tctaggaatt caataaatat aattgcatat gttgtgcttt ccataaatta aaatcctcaa  
1680  
atgcatctca aaccaagatg gtatttccac atcatgccta tttaaaagca aatataatag  
1740  
atactatgcc tggtcataaa accaggtaaa cccccctacc ccattcaaaa ggcagcaata  
1800  
tctagtttcc ctacatctat taaatgagtg ctttctgtt aaaaatcaga atatggaaaa  
1860  
aaagtcagtt tttccctta tgcaccactc aaaacaagca taatcctcta aatgtttttt  
1920  
ttttaaat tttacagtg ttatttcttc tagacaactg agtgggtgga gaaagaaaag  
1980  
tgataaggaa aacattttca tcttttacat cttctccag cccctaaaat tctcatctga  
2040  
cactttgtga catgtgtagt ggtgtcagca tctcttcaa tatagctccc ttcacgttgg  
2100  
accctctcag gttggcttct tgaagatcac acccagacag atcacaaatc tgcaagatga  
2160  
aaacaatatt catgtaattc atgtggaaat ttcaggcctt atctatttct gctcagaatg  
2220  
atttctgggg cagattagga aaatgttctt atacaataaa actcagttaa tttccggaaa  
2280  
actgatgata caccacccta aattaagatg ttcttctatc tttatttgtt acctctagtt  
2340  
caggctgac accataaata tgtataaaca aaggttaaag aggaagcatg tccctgttc  
2400  
ttgcatattt tataaggaga cattgaaaac aggggtcccc aaccctggg ccacagactg  
2460  
atactggctc atggcctgtt aagaatcagg ccacacagca ggaggtcacc agtagatgaa  
2520  
gcttcatctg tatttacagc cagtccctgt atggctcaag ttacagcctg agtccacct  
2580  
cctgtcagat cagcaggggc attagattcg cacaggagcg tgaaccctat tgtgaactgc  
2640  
acatgtgagg gatctaggtg gggtaactct catgagaatc taatccctga tgagctgtca  
2700  
ctgtctccaa cacaccaga tgggactgtc tagttgcaag aaaacaaact cagggtccc  
2760  
actgattcta cattatggtg agttatataa ttatttcatt atgtattaca atgtaatact  
2820  
agtagaaata aagtgcacaa taaatgtaac gcgcttgaat catcccaaaa ccagccccc  
2880  
actctgatct gtgaaaatat tttcttccac aaaaccagtc cctgggtgcca aaaaggttgg  
2940  
ggaccactga tttaaaatac agaatggatt ccaacataat aaatacacac acacacacac  
3000

acacacacaa acacaatttt ttttttgaaa cggagttttg ctcttgttgc ccaggctgga  
3060  
gtgcaanntc tcggtcact gcaacctcca cctccaggat tcgagctatt ctctgcctc  
3120  
agcttccaga gtagctgggg ttacaggcac tcaccaccac gcctggctaa tttttctatt  
3180  
tttagtagag acgggggttc accatgttgg ccaggctggt ctcaaactcc taacctcaag  
3240  
tgattcgccc accttggcct cccaaaatgc tggggttaca ggcattgagcc actgcgcctg  
3300  
gcccacaaagt aataaatatt atcaaaacaa ttttactatg atccaagaac aacaacaaca  
3360  
aaaggaatga gatgggggga agactttttt tttaacttga aaagatttta cttaatcaaa  
3420  
ttgtgtaata gattttttcca ttccttagcc ctagtatttt tatagcaagg aactgcctt  
3480  
ctttttaaag ccccaaaggc acgtatataa tacagtgagt ttgacagatg tacacaacag  
3540  
tgtaaccacc gcaatttgaa gctatttctt aatttgtctt gagatcacgg agcaataaga  
3600  
tagagattcc acttaagtcc ctggatatga taggggacaa tggtttagaga gaaggggtgac  
3660  
taaacgtaac ctgttaggag aacaaatgtc agcagctctc ccctcaatag tcaacctgat  
3720  
cagtctttgc aatcagagag agggaggcct ttgtctgtag gccacactga gtacacagta  
3780  
ctaaaaccaa ggaaaaaat ataactcttag gtgaaagtaa tgtaacaaac aataaataat  
3840  
tgtgtctgtg ataggattat acttaggcca attctttttg ccttgaagtt gaaaggggcc  
3900  
tgctactctg ctaccgagag ctatcaagat atctaggcaa aaatattatg aaaaaacatt  
3960  
aacagcaagc taaattttga cataccgttc tctgctatcc aatttatacc agatttcata  
4020  
gctaccagcc acatgtggct acttaaatat aaatgaatta aaattaaata aaatttaaaa  
4080  
atcaatttct catttgcaat agccaaatct caagcgctca atagctatat atgggtggta  
4140  
gctactatac tgaacagcac agatatagaa catgtccctc ctgcacaaag tgctatttga  
4200  
tagtgctgat atagacctat caacagctat caagtctgct agctaaactg gcaaattaag  
4260  
aagacataca aatataattc tttgaaaaag atgaccaggc aaaattataa tctcaagctg  
4320  
aaaacaaaaa aacatatggt tccaatttca aatagacttt tctgaacct gatttcaaac  
4380  
ctggatatca tttaaatttc tcaagtagtt taagaagtaa tctagcccat ttaattctat  
4440  
tcggaattaa attttatgga aaatgcaata cattagataa cacatctatc aaacttattt  
4500  
acttgagaaa aactcaagga aaaggagaga aatgaaatca acttagactg aatgtcagat  
4560  
gagtcttcca atccagtttt accagccaac tactttgttt tgatttcaat aaattttgca  
4620



tgagatgctt agtaagtcta gagtaataaa aattcttaaa gtgttggtga actcacctct  
 4680  
 aaatcagttc ctgccagagt tgc  
 4703

<210> 4352  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 4352  
 Ile His Thr His Thr His Thr His Thr Asn Thr Ile Phe Phe Leu Lys  
 1 5 10 15  
 Arg Ser Phe Ala Leu Val Ala Gln Ala Gly Val Gln Xaa Leu Gly Ser  
 20 25 30  
 Leu Gln Pro Pro Pro Pro Gly Phe Glu Leu Phe Ser Cys Leu Ser Phe  
 35 40 45  
 Gln Ser Ser Trp Gly Tyr Arg His Ser Pro Pro Arg Leu Ala Asn Phe  
 50 55 60  
 Ser Ile Phe Ser Arg Asp Gly Val Ser Pro Cys Trp Pro Gly Trp Ser  
 65 70 75 80  
 Gln Thr Pro Asn Leu Lys  
 85

<210> 4353  
 <211> 2471  
 <212> DNA  
 <213> Homo sapiens

<400> 4353  
 natggacttg gggctagctg cggcggggct ggaggaggcc agataaccat gtcagccaca  
 60  
 gttgtagatg cagttaatgc tgcaccoccta tcgggggtcca aagaaatgag tttggaagaa  
 120  
 ccaaagaaga tgaccagaga ggactggaga aagaagaagg agctagaaga acagcgaaaa  
 180  
 ttgggcaatg ctctgcaga agttgatgaa gaaggaaaag acatcaaccc ccatattcct  
 240  
 cagtatatatt cttcagtgcc atggtatatt gatccttcaa aaagacctac tttaaaacac  
 300  
 cagagaccac aaccagaaaa acaaaagcag ttcagctcat ctggagaatg gtacaagagg  
 360  
 ggtgtaaaag agaattccat aattactaag taccgcaaag gagcatgtga aaattgtggg  
 420  
 gccatgacac aaaaaagaa agactgcttt gagagaccta ggcgagtggg agccaaattt  
 480  
 acaggtacta atatagctcc agatgaacat gtccagcctc aactgatgtt tgactatgat  
 540  
 ggggaagagg atcgggtggaa tggctacaat ccagaagaac acatgaaaat tgttgaagag  
 600  
 tatgccaaag ttgatttggc aaaacgaaca ttgaaagccc agaaactcca agaggaatta  
 660  
 gcctcaggaa aattagtggg acaggctaatt tctccaaaac accagtgggg agaagaggaa  
 720

ccaaattctc agacggaaaa agatcataat agtgaagatg aggatgaaga taaatatgca  
780  
gatgatattg acatgcctgg acagaatttt gactccaaga gacgaattac tgtccggaat  
840  
ctcaggattc gagaagatat tgcaaaatat ttgaggaatt tagatccaaa ttctgcctac  
900  
tatgatccaa aaactagagc aatgagagag aatccttatg ccaatgcagg aaagaatcca  
960  
gatgaagtga gttatgctgg agataacttt gttaggtaca caggagatac catttcaatg  
1020  
gctcagacac agttgtttgc atgggaagcc tatgacaagg gatctgaagt gcatctacag  
1080  
gcagatccta caaagctaga gctgtgttat aagtccttca aagtcaaaaa agaagatttc  
1140  
aaagaacagc agaaagaaag catcctggaa aagtatggtg gccagaaca tttggatgcc  
1200  
cctccagctg aattgctttt agcccagact gaagactatg tggagtactc aagacatggg  
1260  
acagtcatca aaggacagga gcgggctggt gcctgctcta agtatgagga ggatgtgaag  
1320  
atccacaatc acacacatat ctggggatcg tactggaaag aaggccgatg gggatacaaa  
1380  
tgctgtcact cttttttcaa gtattcctat tgtactggag aagctgggaa ggagattggt  
1440  
aactctgagg agtgtattat aaatgagata actggggaag aatctgtgaa aaaacctcaa  
1500  
accctcatgg agctgcatca agaaaaactg aaagaggaaa agaagaagaa gaaaaagaaa  
1560  
aagaagaagc atcgaaagag cagttcagat agtgaatgat aagaaaagaa gcatgaaaaa  
1620  
ttgaaaaagg cactgaacgc agaggaggcc cgccttcttc atgtcaagga gaccatgcag  
1680  
attgatgaga ggaagcggcc ttacaatagc atgtatgaaa ctcgagaacc tactgaagag  
1740  
gaaatggagg catatagaat gaaacgtcag aggccagatg accccatggc ctctttcctt  
1800  
ggacagtatc aactagtcat aagaccatcc aagatagatg cagctgatac attcttttca  
1860  
gcttcttatt gatgattgta gatagaaaaa tccttggtta ttcttcttgc tgcttggtt  
1920  
taataaatat ttcagatgcc tcacagtaag ttcactcctt tccatactga ggaaacaaga  
1980  
aaagaagaag aggcacatga agtgtgcttt tgggaataga atttaaaatt ggattaagat  
2040  
tttatttcca gtttttttta tttatttatt ttttttgaga cggagtcttg ctctgtcgcc  
2100  
caggctgaag tgcggtggcg cgatctcggc tcaactgcaag ctccacctcc cagggtcacg  
2160  
ccattctcct gcctcagcct ccctagtagt tggggactac agggcgcccc ccaccatgct  
2220  
cagctaattt tttgtatttt tagtaggaga cggtttcatc gtgttagcca gggatggctt  
2280  
cgatcttctt gaccttgtga tccaccgccc ttcagcctcc caaagtgtg agattacagg  
2340

cgtagacaccc ggggacctggg cctnttttcc agtttttatg tgagtcacgtg taaaaaaggc  
 2400  
 cttgggttct tctaaccat taaggatgtc tctttctcca atatttatat aaggtttcaa  
 2460  
 acttttatat t  
 2471

<210> 4354

<211> 586

<212> PRT

<213> Homo sapiens

<400> 4354

Met	Ser	Ala	Thr	Val	Val	Asp	Ala	Val	Asn	Ala	Ala	Pro	Leu	Ser	Gly
1				5					10					15	
Ser	Lys	Glu	Met	Ser	Leu	Glu	Glu	Pro	Lys	Lys	Met	Thr	Arg	Glu	Asp
			20					25					30		
Trp	Arg	Lys	Lys	Lys	Glu	Leu	Glu	Glu	Gln	Arg	Lys	Leu	Gly	Asn	Ala
		35					40						45		
Pro	Ala	Glu	Val	Asp	Glu	Glu	Gly	Lys	Asp	Ile	Asn	Pro	His	Ile	Pro
		50				55					60				
Gln	Tyr	Ile	Ser	Ser	Val	Pro	Trp	Tyr	Ile	Asp	Pro	Ser	Lys	Arg	Pro
65					70					75				80	
Thr	Leu	Lys	His	Gln	Arg	Pro	Gln	Pro	Glu	Lys	Gln	Lys	Gln	Phe	Ser
				85					90					95	
Ser	Ser	Gly	Glu	Trp	Tyr	Lys	Arg	Gly	Val	Lys	Glu	Asn	Ser	Ile	Ile
			100					105					110		
Thr	Lys	Tyr	Arg	Lys	Gly	Ala	Cys	Glu	Asn	Cys	Gly	Ala	Met	Thr	His
			115				120					125			
Lys	Lys	Lys	Asp	Cys	Phe	Glu	Arg	Pro	Arg	Arg	Val	Gly	Ala	Lys	Phe
		130				135					140				
Thr	Gly	Thr	Asn	Ile	Ala	Pro	Asp	Glu	His	Val	Gln	Pro	Gln	Leu	Met
145					150					155				160	
Phe	Asp	Tyr	Asp	Gly	Lys	Arg	Asp	Arg	Trp	Asn	Gly	Tyr	Asn	Pro	Glu
				165					170					175	
Glu	His	Met	Lys	Ile	Val	Glu	Glu	Tyr	Ala	Lys	Val	Asp	Leu	Ala	Lys
			180					185					190		
Arg	Thr	Leu	Lys	Ala	Gln	Lys	Leu	Gln	Glu	Glu	Leu	Ala	Ser	Gly	Lys
		195					200					205			
Leu	Val	Glu	Gln	Ala	Asn	Ser	Pro	Lys	His	Gln	Trp	Gly	Glu	Glu	Glu
		210				215					220				
Pro	Asn	Ser	Gln	Thr	Glu	Lys	Asp	His	Asn	Ser	Glu	Asp	Glu	Asp	Glu
225					230					235				240	
Asp	Lys	Tyr	Ala	Asp	Asp	Ile	Asp	Met	Pro	Gly	Gln	Asn	Phe	Asp	Ser
				245					250				255		
Lys	Arg	Arg	Ile	Thr	Val	Arg	Asn	Leu	Arg	Ile	Arg	Glu	Asp	Ile	Ala
			260					265					270		
Lys	Tyr	Leu	Arg	Asn	Leu	Asp	Pro	Asn	Ser	Ala	Tyr	Tyr	Asp	Pro	Lys
		275					280					285			
Thr	Arg	Ala	Met	Arg	Glu	Asn	Pro	Tyr	Ala	Asn	Ala	Gly	Lys	Asn	Pro
		290				295					300				
Asp	Glu	Val	Ser	Tyr	Ala	Gly	Asp	Asn	Phe	Val	Arg	Tyr	Thr	Gly	Asp
305					310					315				320	
Thr	Ile	Ser	Met	Ala	Gln	Thr	Gln	Leu	Phe	Ala	Trp	Glu	Ala	Tyr	Asp

```

          325          330          335
Lys Gly Ser Glu Val His Leu Gln Ala Asp Pro Thr Lys Leu Glu Leu
          340          345          350
Leu Tyr Lys Ser Phe Lys Val Lys Lys Glu Asp Phe Lys Glu Gln Gln
          355          360          365
Lys Glu Ser Ile Leu Glu Lys Tyr Gly Gly Gln Glu His Leu Asp Ala
          370          375          380
Pro Pro Ala Glu Leu Leu Leu Ala Gln Thr Glu Asp Tyr Val Glu Tyr
385          390          395          400
Ser Arg His Gly Thr Val Ile Lys Gly Gln Glu Arg Ala Val Ala Cys
          405          410          415
Ser Lys Tyr Glu Glu Asp Val Lys Ile His Asn His Thr His Ile Trp
          420          425          430
Gly Ser Tyr Trp Lys Glu Gly Arg Trp Gly Tyr Lys Cys Cys His Ser
          435          440          445
Phe Phe Lys Tyr Ser Tyr Cys Thr Gly Glu Ala Gly Lys Glu Ile Val
          450          455          460
Asn Ser Glu Glu Cys Ile Ile Asn Glu Ile Thr Gly Glu Glu Ser Val
465          470          475          480
Lys Lys Pro Gln Thr Leu Met Glu Leu His Gln Glu Lys Leu Lys Glu
          485          490          495
Glu Lys Lys Lys Lys Lys Lys Lys Lys Lys Lys His Arg Lys Ser Ser
          500          505          510
Ser Asp Ser Asp Asp Glu Glu Lys Lys His Glu Lys Leu Lys Lys Ala
          515          520          525
Leu Asn Ala Glu Glu Ala Arg Leu Leu His Val Lys Glu Thr Met Gln
          530          535          540
Ile Asp Glu Arg Lys Arg Pro Tyr Asn Ser Met Tyr Glu Thr Arg Glu
545          550          555          560
Pro Thr Glu Glu Glu Met Glu Ala Tyr Arg Met Lys Arg Gln Arg Pro
          565          570          575
Asp Asp Pro Met Ala Ser Phe Leu Gly Gln
          580          585

```

&lt;210&gt; 4355

&lt;211&gt; 1741

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4355

```

nggccggtag ctgttgctgt tgggggaccc cctcattcct gccgctgccg tccttgctgc
60
ctcatggcgg ccatcgaggt tcacctgggc tgcacctcag cctgtgtggc cgtctataag
120
gatggccggg ctggtgtggt tgcaaatgat gccggtgacc gagttactcc agctgttgtt
180
gcttactcag aaaatgaaga gattgttgga ttggcagcaa aacaaagtag aataagaaat
240
atttcaaata cagtaatgaa agtaaagcag atcctgggca gaagctccag tgatccacaa
300
gctcagaaat acatcgcgga aagtaaagt ttagtcattg aaaaaaatgg gaaattacga
360
tatgaaatag atactggaga agaaacaaaa tttgttaacc cagaagatgt tgccagactg
420

```

atatttagta aaatgaaaga aacggcacat tctgtattgg gctcagatgc aaatgatgta  
480  
gttattactg tcccgtttga ttttgagaa aagcaaaaa atgcccttgg agaagcagct  
540  
agagctgctg gatttaatgt tttgcgatta attcacgaac cgtctgcagc tcttcttgc  
600  
tatggaattg gacaagactc ccctactgga aaaagcaata ttttggtggt taagcttgg  
660  
ggaacatcct tatctctcag cgtcatggaa gttaacagtg gaatatatcg gggtcttca  
720  
acaaacactg atgataacat cggtggtgca catttcacag aaaccttagc acagtatcta  
780  
gcttctgagt tccaaagatc cttcaaacat gatgtgagag gaaatgcgcg agccatgatg  
840  
aaattaacga acagtgcgtg agtagcgaaa cattctttgt caaccttggg aagtgccaac  
900  
tgttttcttg actcattata tgaagggtcaa gattttgatt gcaatgtgtc cagagcaaga  
960  
tttgaacttc tttgttctcc actttttaat aagtgtatag aagcaatcag aggactctta  
1020  
gatcaaaatg gatttacagc agatgatatc aacaagggtg tcctttgtgg agggctcttc  
1080  
cgaatcccaa agctacagca actgattaaa gatcttttcc cagctggtga gcttctcaat  
1140  
tctatccctc ctgatgaagt gatccctatt ggtgcagcta tagaagcagg aattcttatt  
1200  
gggaaagaaa acctgttggg ggaagactct cttatgatag agtggtcagc cagagatatt  
1260  
ttagttaagg gtgtggacga atcaggagcc agtagattca cagtgtgtt tccatcaggg  
1320  
actcctttgc cagctcgaag acaacacaca ttgcaagccc ctggaagcat atcttcagt  
1380  
tgccttgaa cctatgagtc tgatgggaag aactctgcc aagaggaaac caagtttgca  
1440  
caggttgtac tccaggattt agataaaaaa gaaaatggat tacgtgatat attagctgtt  
1500  
cttactatga aaagggtg atctttacat gtgacatgca cagatcaaga aactggaaaa  
1560  
tgtgaagcaa tctctattga gatagcatct tagtgtttta gagaaatcaa gaatttttaa  
1620  
aaacaagaat atcaacattt ggttttgtgt ataagtgggtg tttgtattaa aatactttt  
1680  
caatgaactg tataaactat gttttattaa actacaatat atcagtaaaa aaaaaaaaaa  
1740  
a  
1741

&lt;210&gt; 4356

&lt;211&gt; 509

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4356

Met Ala Ala Ile Gly Val His Leu Gly Cys Thr Ser Ala Cys Val Ala

```

1           5           10           15
Val Tyr Lys Asp Gly Arg Ala Gly Val Val Ala Asn Asp Ala Gly Asp
20           25           30
Arg Val Thr Pro Ala Val Val Ala Tyr Ser Glu Asn Glu Glu Ile Val
35           40           45
Gly Leu Ala Ala Lys Gln Ser Arg Ile Arg Asn Ile Ser Asn Thr Val
50           55           60
Met Lys Val Lys Gln Ile Leu Gly Arg Ser Ser Ser Asp Pro Gln Ala
65           70           75           80
Gln Lys Tyr Ile Ala Glu Ser Lys Cys Leu Val Ile Glu Lys Asn Gly
85           90           95
Lys Leu Arg Tyr Glu Ile Asp Thr Gly Glu Glu Thr Lys Phe Val Asn
100          105          110
Pro Glu Asp Val Ala Arg Leu Ile Phe Ser Lys Met Lys Glu Thr Ala
115          120          125
His Ser Val Leu Gly Ser Asp Ala Asn Asp Val Val Ile Thr Val Pro
130          135          140
Phe Asp Phe Gly Glu Lys Gln Lys Asn Ala Leu Gly Glu Ala Ala Arg
145          150          155          160
Ala Ala Gly Phe Asn Val Leu Arg Leu Ile His Glu Pro Ser Ala Ala
165          170          175
Leu Leu Ala Tyr Gly Ile Gly Gln Asp Ser Pro Thr Gly Lys Ser Asn
180          185          190
Ile Leu Val Phe Lys Leu Gly Gly Thr Ser Leu Ser Leu Ser Val Met
195          200          205
Glu Val Asn Ser Gly Ile Tyr Arg Val Leu Ser Thr Asn Thr Asp Asp
210          215          220
Asn Ile Gly Gly Ala His Phe Thr Glu Thr Leu Ala Gln Tyr Leu Ala
225          230          235          240
Ser Glu Phe Gln Arg Ser Phe Lys His Asp Val Arg Gly Asn Ala Arg
245          250          255
Ala Met Met Lys Leu Thr Asn Ser Ala Glu Val Ala Lys His Ser Leu
260          265          270
Ser Thr Leu Gly Ser Ala Asn Cys Phe Leu Asp Ser Leu Tyr Glu Gly
275          280          285
Gln Asp Phe Asp Cys Asn Val Ser Arg Ala Arg Phe Glu Leu Leu Cys
290          295          300
Ser Pro Leu Phe Asn Lys Cys Ile Glu Ala Ile Arg Gly Leu Leu Asp
305          310          315          320
Gln Asn Gly Phe Thr Ala Asp Asp Ile Asn Lys Val Val Leu Cys Gly
325          330          335
Gly Ser Ser Arg Ile Pro Lys Leu Gln Gln Leu Ile Lys Asp Leu Phe
340          345          350
Pro Ala Val Glu Leu Leu Asn Ser Ile Pro Pro Asp Glu Val Ile Pro
355          360          365
Ile Gly Ala Ala Ile Glu Ala Gly Ile Leu Ile Gly Lys Glu Asn Leu
370          375          380
Leu Val Glu Asp Ser Leu Met Ile Glu Cys Ser Ala Arg Asp Ile Leu
385          390          395          400
Val Lys Gly Val Asp Glu Ser Gly Ala Ser Arg Phe Thr Val Leu Phe
405          410          415
Pro Ser Gly Thr Pro Leu Pro Ala Arg Arg Gln His Thr Leu Gln Ala
420          425          430
Pro Gly Ser Ile Ser Ser Val Cys Leu Glu Leu Tyr Glu Ser Asp Gly

```

3551

115

&lt;210&gt; 4359

&lt;211&gt; 3661

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4359

ncggccgagg gggcatcatg aagcgggctg gcggcgctgc gtcccgggcg gccgcgggcg  
60  
ggaggtgctt cccaaggacc gtagatgcct ctctagagca tgagctcagg caagagtgcc  
120  
cgctacaacc gcttctccgg ggggcccagc aatcttcca cccagacgt caccacaggg  
180  
accagaatgg aaacgacctt cggaccgcgc ttttcagccg tcaccaccat cacaaaagct  
240  
gacgggacca gcacctacaa gcagcactgc aggacacct cctcctccag cacccttgcc  
300  
tactccccgc gggacgagga ggacagcatg ccccccacga gcactccccg ccgctccgac  
360  
tccgccatct ctgtccgctc cctgcactca gaggccagca tgtctctgag ctccacattc  
420  
tactgccccg aggaggagga ggagccggag ccactggtgt ttgcggagca gccctcggtg  
480  
aagctgtgct gtcagctctg ctgcagcgtc ttcaaagacc ccgtgatcac cacgtgtggg  
540  
cacacgttct gtaggagatg cgccttgaag tcagagaagt gtcccgtgga caacgtcaaa  
600  
ctgaccgtgg tggatgaaca catcgcggtg gccgagcaga tgggggagct cttcatccac  
660  
tgccggcacg gctgccgggt agcgggcagc gggaagcccc ccattcttga ggtggacccc  
720  
cgagggtgcc cttcaccat caagctcagc gcccgaagg accacgaggg cagctgtgac  
780  
tacaggcctg tgcggtgtcc caacaacccc agctgcccc cgtgctcag gatgaacctg  
840  
gaggcccacc tcaaggagtg cgagcacatc aaatgcccc actccaagta cgggtgcaca  
900  
tttattggga atcaggacac ctatgagaca cacttagaaa catgccgctt cgagggcctg  
960  
aaggagtttc tgcagcagac ggatgaccgc ttccacgaga tgcattgtgg tctggcccag  
1020  
aaggaccagg agatcgctt cctgcgctcc atgctgggaa agctctcga gaagatcgac  
1080  
cagctagaga agagcctgga gctcaagttt gacgtcctgg acgaaaacca gagcaagctc  
1140  
agcgaggacc tcatggagtt ccggcgggac gcatccatgt taaatgacga gctgtcccac  
1200  
atcaacgcgc ggctgaacat gggcatccta ggctcctac accctcagca gatcttcaag  
1260  
tgcaaaggga ctttgtggg ccaccagggc cctgtgtggt gtctctcgt ctactccatg  
1320  
ggtgacctgc tcttcagtgg ctctctgac aagaccatca aggtgtggga cacatgtacc  
1380



acctacaagt gtcagaagac actggagggc catgatggca tcgtgctggc tctctgcatc  
1440  
caggggtgca aactctacag cggctctgca gactgcacca tcattgtgtg ggacatccag  
1500  
aacctgcaga aggtgaacac catccggggc catgacaacc cgggtgtgcac gctgggtctcc  
1560  
tcacacaacg tgctcttcag cggctccctg aaggccatca aggtctggga catcgtgggc  
1620  
actgagctga agttgaagaa ggagctcaca ggcctcaacc actgggtgcg ggccttggtg  
1680  
gctgccca gctacctgta cagcggctcc taccagacaa tcaagatctg ggacatccga  
1740  
acccttgact gcatccacgt cctgcagacg tctgggtggca gcgtctactc cattgtgtg  
1800  
acaaatcacc acattgtctg tggcacctac gagaacctca tccacgtgtg ggacattgag  
1860  
tccaaggagc aggtgctggc cctcacgggc cacgtgggca ccgtgtatgc cctggcggtc  
1920  
atctcgacgc cagaccagac caaagtcttc agtgcacctc acgaccgggc cctcagggtc  
1980  
tggagtatgg acaacatgat ctgcacgcag accctgctgc gtcaccaggg cagtgtcacc  
2040  
gcgttggtg tgtcccgggg ccgactcttc tcaggggctg tggatagcac tgtgaagggt  
2100  
tggacttgct aacaggatcc aggcaggtc gtgggtttcc ctgaaccagc cctggacctt  
2160  
tctgagccag gctggccaca tgggggtggtc tcgggggttc tgccctgccc gtgggcatag  
2220  
gtggacaggc tctggcagcc gggcagtgcc ctccccgtcc catgctcggc gagcctccct  
2280  
ctactcggca ctgtccttgc tgcccagccc ctctctgggt gccaggtacg acgcttgccc  
2340  
cgccccaccc tccatcccca cctccatcc ccaccctaga tggagcgagg gcctttttac  
2400  
tcaccttttc taccgttttt agactgtatg tagatttggg tacctcctgg ttgaaataaa  
2460  
tgctccacag actgtggctg tgagtgggga cagctcctcg ggacaagggg gctgtgtgtg  
2520  
gccttgaggt tgggtgtgcac aggcactggc tgctgtgagt gggggggcat ggggcagttt  
2580  
cctttggtgg accccaggac ttccggccac tccggggcct cccctccctg ctaggaggca  
2640  
actcgtcaca cccaagctgc tggcctccag tccatctcc cccaacacat gtgccccaa  
2700  
aaagtgagcc aggcacctct gtttctctgct gtttattgac agccgacgga gcgccttgcc  
2760  
cagacctccc ctgcccacct gctggagccc agcctgtgcc gccctctgag gagaggcctg  
2820  
gggggacagc tgggcacgtc cactcgcagg gaaacacggg gtgagacagc aggaaggggc  
2880  
cctgcacgcc gggacgccac ctccgccagc cgcctccacc cgccccacac cacaatcgct  
2940  
ggttttcggc attttttaaa tttttttttt aagaaacgtc aaagtgtgtc ccaacactgt  
3000

ggatcagcaa acacgataga ggagaccagt cagtacttct tggagggggc aggaggagag  
 3060  
 aggaaaaggg agggcgagaa tgaccacaca acacagcctt ggaccatgag cagaagcgtc  
 3120  
 cgtgggaact ccactggggt ggatgggctg cctgcacagc ccctggagag ggggccaggc  
 3180  
 acaccctcag aggagctgca agcccgtggc ctggcctgct acatgccctg cttccacgtg  
 3240  
 gctgccacgc tgacacaccc acattcacca aaccacccg cgccctggga cgcagccacg  
 3300  
 ccaggaggag gacacggccg ccgagagcaa ggcacaacct cgagttcttg gggcgagag  
 3360  
 aacttaggag agaagcacgg aggagccccc ggcagagcac ccgcccccg gccccagcct  
 3420  
 tccacctgtg ctagcagcct ggggcctcca ctctggccgg aggaaggacc gcaggcagac  
 3480  
 agcctggggc tetaacagct tttgtccgga gctagacttc gtgtccttcc agtttgtaaa  
 3540  
 tggttttcta tagaatcaat aatatttctt tctttaata tatatttgtt aaagttatac  
 3600  
 ctttttgttt ctctggggaa atccgectca gctcattccc aataaattaa tactcttgaa  
 3660  
 a  
 3661

<210> 4360

<211> 670

<212> PRT

<213> Homo sapiens

<400> 4360

Met	Ser	Ser	Gly	Lys	Ser	Ala	Arg	Tyr	Asn	Arg	Phe	Ser	Gly	Gly	Pro
1				5					10					15	
Ser	Asn	Leu	Pro	Thr	Pro	Asp	Val	Thr	Thr	Gly	Thr	Arg	Met	Glu	Thr
		20						25					30		
Thr	Phe	Gly	Pro	Ala	Phe	Ser	Ala	Val	Thr	Thr	Ile	Thr	Lys	Ala	Asp
		35					40					45			
Gly	Thr	Ser	Thr	Tyr	Lys	Gln	His	Cys	Arg	Thr	Pro	Ser	Ser	Ser	Ser
		50				55					60				
Thr	Leu	Ala	Tyr	Ser	Pro	Arg	Asp	Glu	Glu	Asp	Ser	Met	Pro	Pro	Ile
65					70					75					80
Ser	Thr	Pro	Arg	Arg	Ser	Asp	Ser	Ala	Ile	Ser	Val	Arg	Ser	Leu	His
			85						90					95	
Ser	Glu	Ser	Ser	Met	Ser	Leu	Arg	Ser	Thr	Phe	Ser	Leu	Pro	Glu	Glu
		100						105					110		
Glu	Glu	Glu	Pro	Glu	Pro	Leu	Val	Phe	Ala	Glu	Gln	Pro	Ser	Val	Lys
		115				120						125			
Leu	Cys	Cys	Gln	Leu	Cys	Cys	Ser	Val	Phe	Lys	Asp	Pro	Val	Ile	Thr
	130					135					140				
Thr	Cys	Gly	His	Thr	Phe	Cys	Arg	Arg	Cys	Ala	Leu	Lys	Ser	Glu	Lys
145					150					155					160
Cys	Pro	Val	Asp	Asn	Val	Lys	Leu	Thr	Val	Val	Val	Asn	Asn	Ile	Ala
			165					170						175	
Val	Ala	Glu	Gln	Ile	Gly	Glu	Leu	Phe	Ile	His	Cys	Arg	His	Gly	Cys

			180					185					190			
Arg	Val	Ala	Gly	Ser	Gly	Lys	Pro	Pro	Ile	Phe	Glu	Val	Asp	Pro	Arg	
		195					200					205				
Gly	Cys	Pro	Phe	Thr	Ile	Lys	Leu	Ser	Ala	Arg	Lys	Asp	His	Glu	Gly	
		210				215					220					
Ser	Cys	Asp	Tyr	Arg	Pro	Val	Arg	Cys	Pro	Asn	Asn	Pro	Ser	Cys	Pro	
225					230					235					240	
Pro	Leu	Leu	Arg	Met	Asn	Leu	Glu	Ala	His	Leu	Lys	Glu	Cys	Glu	His	
				245					250					255		
Ile	Lys	Cys	Pro	His	Ser	Lys	Tyr	Gly	Cys	Thr	Phe	Ile	Gly	Asn	Gln	
			260					265					270			
Asp	Thr	Tyr	Glu	Thr	His	Leu	Glu	Thr	Cys	Arg	Phe	Glu	Gly	Leu	Lys	
		275					280					285				
Glu	Phe	Leu	Gln	Gln	Thr	Asp	Asp	Arg	Phe	His	Glu	Met	His	Val	Ala	
		290				295					300					
Leu	Ala	Gln	Lys	Asp	Gln	Glu	Ile	Ala	Phe	Leu	Arg	Ser	Met	Leu	Gly	
305					310					315					320	
Lys	Leu	Ser	Glu	Lys	Ile	Asp	Gln	Leu	Glu	Lys	Ser	Leu	Glu	Leu	Lys	
				325					330					335		
Phe	Asp	Val	Leu	Asp	Glu	Asn	Gln	Ser	Lys	Leu	Ser	Glu	Asp	Leu	Met	
			340					345					350			
Glu	Phe	Arg	Arg	Asp	Ala	Ser	Met	Leu	Asn	Asp	Glu	Leu	Ser	His	Ile	
		355					360					365				
Asn	Ala	Arg	Leu	Asn	Met	Gly	Ile	Leu	Gly	Ser	Tyr	Asp	Pro	Gln	Gln	
		370				375						380				
Ile	Phe	Lys	Cys	Lys	Gly	Thr	Phe	Val	Gly	His	Gln	Gly	Pro	Val	Trp	
385					390					395					400	
Cys	Leu	Cys	Val	Tyr	Ser	Met	Gly	Asp	Leu	Leu	Phe	Ser	Gly	Ser	Ser	
			405					410						415		
Asp	Lys	Thr	Ile	Lys	Val	Trp	Asp	Thr	Cys	Thr	Thr	Tyr	Lys	Cys	Gln	
		420						425					430			
Lys	Thr	Leu	Glu	Gly	His	Asp	Gly	Ile	Val	Leu	Ala	Leu	Cys	Ile	Gln	
		435					440					445				
Gly	Cys	Lys	Leu	Tyr	Ser	Gly	Ser	Ala	Asp	Cys	Thr	Ile	Ile	Val	Trp	
		450				455					460					
Asp	Ile	Gln	Asn	Leu	Gln	Lys	Val	Asn	Thr	Ile	Arg	Ala	His	Asp	Asn	
465					470					475					480	
Pro	Val	Cys	Thr	Leu	Val	Ser	Ser	His	Asn	Val	Leu	Phe	Ser	Gly	Ser	
			485					490						495		
Leu	Lys	Ala	Ile	Lys	Val	Trp	Asp	Ile	Val	Gly	Thr	Glu	Leu	Lys	Leu	
		500						505					510			
Lys	Lys	Glu	Leu	Thr	Gly	Leu	Asn	His	Trp	Val	Arg	Ala	Leu	Val	Ala	
		515					520					525				
Ala	Gln	Ser	Tyr	Leu	Tyr	Ser	Gly	Ser	Tyr	Gln	Thr	Ile	Lys	Ile	Trp	
		530				535										

610	615	620
Leu Arg Val Trp Ser Met Asp Asn Met Ile Cys Thr Gln Thr Leu Leu		
625	630	635
Arg His Gln Gly Ser Val Thr Ala Leu Ala Val Ser Arg Gly Arg Leu		640
	645	650
Phe Ser Gly Ala Val Asp Ser Thr Val Lys Val Trp Thr Cys		655
	660	670

&lt;210&gt; 4361

&lt;211&gt; 574

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4361

```

nggatccaga acccattgct atcaggctgt acagccttca atcacaacgg gaacctgctg
60
gtcacagggg cagctgatgg cgtcatccgg ctgtttgaca tgcagcagca tgagtgcgcg
120
atgagctgga gggcccacta cggggaggtc tactctgtgg agttcagcta tgatgagaac
180
accgtgtaca gcacggcgga ggacgggaag gtagggcggt ccaggattca gataagagag
240
caccgggatg acatgtgggc cggctgcagg ttgtggccat acctgttact agctctgcaa
300
cctggggcct ctttttgcag ctttgttata tgtagaatag ggataaacta gtaattcgtc
360
ttacaatcct tgcgaggttt tagtgaattc agtgggagtt ggctatcctt atgaaaggaa
420
gtaccaaaaa ttactcatct taccatagat gtatctgtgg ggtctggatt tagggctgag
480
tttgctttgc tgggcttggg agtgagtggg cccaggacca ctcatggatg tgtagtttgc
540
tgagtggctg gggacagctt cttacatgtg taca
574

```

&lt;210&gt; 4362

&lt;211&gt; 116

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4362

Xaa	Ile	Gln	Asn	Pro	Leu	Leu	Ser	Gly	Cys	Thr	Ala	Phe	Asn	His	Asn
1			5					10					15		
Gly	Asn	Leu	Leu	Val	Thr	Gly	Ala	Ala	Asp	Gly	Val	Ile	Arg	Leu	Phe
		20					25						30		
Asp	Met	Gln	Gln	His	Glu	Cys	Ala	Met	Ser	Trp	Arg	Ala	His	Tyr	Gly
		35				40					45				
Glu	Val	Tyr	Ser	Val	Glu	Phe	Ser	Tyr	Asp	Glu	Asn	Thr	Val	Tyr	Ser
	50					55				60					
Ile	Gly	Glu	Asp	Gly	Lys	Val	Gly	Gly	Ser	Arg	Ile	Gln	Ile	Arg	Glu
65				70				75						80	
His	Arg	Asp	Asp	Met	Trp	Ala	Gly	Cys	Arg	Leu	Trp	Pro	Tyr	Leu	Leu
			85					90					95		
Leu	Ala	Leu	Gln	Pro	Gly	Ala	Ser	Phe	Cys	Ser	Phe	Val	Ile	Cys	Arg

Ile Gly Ile Asn  
115

<210> 4363  
<211> 1222  
<212> DNA  
<213> Homo sapiens

<400> 4363  
tttttttttt tttttttttt tttttttttt tttttttttt tttttgagat ttcccaggac  
60  
tggttttaaat ttgaaaaatc tgattggggt ctcttcccggt atcagagaag gaacagccca  
120  
agctatgacc ccagggccag ggaattcagt cccaccaga ccctgtcatt ccatcactag  
180  
ggggtaatc caggctcccc ctgccagccc tgagacagga ggacggatgt gaagttgccc  
240  
aggactagat tctgtctctc caaagtggcc caagccctgt tctctgtact agggaagcca  
300  
gctgtgtctt ttcgaggaca gttggtccag ccagcaggct cagttcagat accagacaac  
360  
cattccagca cgagggtca gcgccctggc ccggcggtc gctccagtgc ctgtgtgccc  
420  
accagcacat ccatgaggta gtccaattcg gcctcgcca gctccggagc ttcctccttg  
480  
cccggcccat cctcagggcc tggtttgagg ccctcagagg ctggtgccc aagttcattg  
540  
tcatacatag aggtgtcaat atcctcaaac aggccctcga gcccatcgtc cagtagacag  
600  
ccagtggctg ggcccagcag gtccaaggca ccaggtctgg gcgctgtcc ccgatgcta  
660  
cggcctggtg gccctcgtc tgccaagggt tggggagcct gactcaggcc ctcaatgtgg  
720  
ctgaggtcct ccaggaggct ggccatggag gctgaaaggg cagcgtccga gcttgccagt  
780  
aagttgtcag ccacactggg ggctgcagggt gggctaggca caggtggcag ggcagccgag  
840  
ggtgccatgg acgcnntgg atgcgccga gagtgttcac gaccagcacc aggtgccgca  
900  
ggtccggctc actctgctgc aggctgtggt nggagcttga gactgagag gtcaaagagg  
960  
gagctagagg ccacggccgg ggggtgcctgt gccaccgctg cgtggccagg atctagccac  
1020  
caggagtcca ctgccagagg ttccttctcc tctcctcct cccgtttccg cttcagaccc  
1080  
ttgtcagca tcttgtcac tagcggccaa tcagaacgaa gaggtagcca cccacaacca  
1140  
atcaggaaaac ggcgggcgca gcatcgcttg ttggctgtcc tccgaaacc cgcgcctggg  
1200  
tcgcgagacg cagttctagc ga  
1222

<210> 4364

<211> 75  
 <212> PRT  
 <213> Homo sapiens

<400> 4364  
 Asp Arg Arg Thr Asp Val Lys Leu Pro Arg Thr Arg Phe Cys Leu Ser  
 1 5 10 15  
 Lys Val Ala Gln Ala Leu Phe Ser Val Leu Gly Lys Pro Ala Val Ser  
 20 25 30  
 Phe Arg Gly Gln Leu Val Gln Pro Ala Gly Ser Val Gln Ile Pro Asp  
 35 40 45  
 Asn His Ser Ser Thr Arg Ala Gln Arg Pro Gly Pro Gly Gly Arg Ser  
 50 55 60  
 Ser Ala Cys Val Pro Thr Ser Thr Ser Met Arg  
 65 70 75

<210> 4365  
 <211> 469  
 <212> DNA  
 <213> Homo sapiens

<400> 4365  
 gacgtgctcg atggcaaggt cgcaccgggc aagaacgtgc cggctctacga caccatctgc  
 60  
 gagttcaccg gcatgtcggt cgccgacttc ctcgctgaca agggcagcca ggttgagatc  
 120  
 gtcaccgacg acatcaagcc ggggtgtggcg attggcggtta cgtcgttccc gacctactac  
 180  
 cgcagcatgt acccgaaaga agtgatcatg accggcgaca tgatgctgga aaaggtctat  
 240  
 cgcgagggcg acaagctggt ggcgggtgctg gagaacgaat acaccggcgc caaggaagag  
 300  
 cgggtggtcg accaggtggt ggtggagaac ggtgtgcgtc cggatgagga aatctactac  
 360  
 gggctcaagg aaggttcgcg caacaagggc cagatcgatg tcgaagccct gttcgcgatc  
 420  
 aagccgcagc cttcgtgaa tactcttaat gaagaggcag cgggtgacg  
 469

<210> 4366  
 <211> 156  
 <212> PRT  
 <213> Homo sapiens

<400> 4366  
 Asp Val Leu Asp Gly Lys Val Ala Pro Gly Lys Asn Val Pro Val Tyr  
 1 5 10 15  
 Asp Thr Ile Cys Glu Phe Thr Gly Met Ser Val Ala Asp Phe Leu Ala  
 20 25 30  
 Asp Lys Gly Ser Gln Val Glu Ile Val Thr Asp Asp Ile Lys Pro Gly  
 35 40 45  
 Val Ala Ile Gly Gly Thr Ser Phe Pro Thr Tyr Tyr Arg Ser Met Tyr  
 50 55 60  
 Pro Lys Glu Val Ile Met Thr Gly Asp Met Met Leu Glu Lys Val Tyr

```

65          70          75          80
Arg Glu Gly Asp Lys Leu Val Ala Val Leu Glu Asn Glu Tyr Thr Gly
          85          90          95
Ala Lys Glu Glu Arg Val Val Asp Gln Val Val Val Glu Asn Gly Val
          100          105          110
Arg Pro Asp Glu Glu Ile Tyr Tyr Gly Leu Lys Glu Gly Ser Arg Asn
          115          120          125
Lys Gly Gln Ile Asp Val Glu Ala Leu Phe Ala Ile Lys Pro Gln Pro
          130          135          140
Ser Leu Asn Thr Leu Asn Glu Glu Ala Ala Gly Asp
145          150          155

```

&lt;210&gt; 4367

&lt;211&gt; 852

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4367

```

nncctaggca gggggatggc cctgcgtgac tgcaccagaa ggaaggagct ggggccggct
60
ggccttttgc aggtggaatt tccagaggcc cggatcttcg aggagaccct gaacatcctc
120
atctacgaga ctccccgggg cccagaccca gccctcctgg aggccacagg gggagcagct
180
ggagctggtg gggctggccg cggggaggat gaagagaacc gagagcaccg tgtccgcagg
240
atccatgtcc ggcgccatat caccacgac gagcgtcctc atggccaaca aattgtcttc
300
aaggactgac ctctgaccct cccctgcct tcctcttgcc ttgggaccca gtccctctct
360
ctttccctcc ccttcccaga cttttgcccc ggctctgctg gccaagtcgt gggtcctcct
420
ctgtcccttc attgcatggc acagctcact ttggcccttc tccaccgctc ccaaccccat
480
tgctaacaac atggtacatt ccggccccac cactcagagc cttccgaagc caacacttgt
540
ccccaccctg gccctgcgtc ctccctctc cagctgggta agagggattt agaattccct
600
ttctcttttt ttagtgcac gtccatgcca aagtgtgcgg cccttctga catcaccaca
660
gtctgagcag cctcccgct cctgcagggt agtccgcccc ctctcccca ccatcctccc
720
tacctcctta actttgtact agactggcct gggcctgccc agctcagcgt tatcagtctg
780
tttcatatta tttattatct taattttcta ttaaattatt gaaataaagt taagttgaga
840
aactaaaaaa aa
852

```

&lt;210&gt; 4368

&lt;211&gt; 102

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4368

Xaa Leu Gly Arg Gly Met Ala Leu Arg Asp Cys Thr Arg Arg Lys Glu  
 1 5 10 15  
 Leu Gly Pro Ala Gly Leu Leu Gln Val Glu Phe Pro Glu Ala Arg Ile  
 20 25 30  
 Phe Glu Glu Thr Leu Asn Ile Leu Ile Tyr Glu Thr Pro Arg Gly Pro  
 35 40 45  
 Asp Pro Ala Leu Leu Glu Ala Thr Gly Gly Ala Ala Gly Ala Gly Gly  
 50 55 60  
 Ala Gly Arg Gly Glu Asp Glu Glu Asn Arg Glu His Arg Val Arg Arg  
 65 70 75 80  
 Ile His Val Arg Arg His Ile Thr His Asp Glu Arg Pro His Gly Gln  
 85 90 95  
 Gln Ile Val Phe Lys Asp  
 100

&lt;210&gt; 4369

&lt;211&gt; 1264

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4369

gctcagctgg ccaaccctga aatccccctg ggcagtgacg agcagttcct cctcaccttg  
 60  
 tcctccatca gcgagctctc tgcaagactt cacctctggg cattcaaaat ggattatgaa  
 120  
 actacagaaa aggaagtagc agaaccactc ctggacctga aggaaggaat agaccagttg  
 180  
 gagaacaata aaaccttggg ctttatcctg tctactctct tagccatttg gaactttcta  
 240  
 aatggaacta atgccaagc gtttgagtta agctacctcg agaaggttcc agaagtcaaa  
 300  
 gacacagtgc acaagcagtc gcttctccac catgtgtgca ccatgggtgt agaaaacttc  
 360  
 ccagacagct ccgatctgta ctccgagatc ggggccatca ccaggtcagc caagggtgac  
 420  
 tttgatcaac ttcaggataa tttatgtcag atggagagaa gatgcaaagc ttcattggat  
 480  
 cacctcaagg caattgcaaa acatgaaatg aaaccagttt taaaacaacg gatgtcagag  
 540  
 ttcctgaaag actgtgcaga gcgaattata attttaaaga ttgtccatag aaggataatc  
 600  
 aacagattcc actccttttt actctttatg ggccatccac cttatgcaat tcgggaagtg  
 660  
 aacataaaca aattctgcag gattattagt gaatttgcac tagagtatcg cacaaccagg  
 720  
 gaaagggttt tgcagcagaa acagaaacgg gccaaaccaca gagagagaaa taagaccaga  
 780  
 gggaagatga tcaccgattc tggcaagttc tccggcagtt ctccggcgcc cccaagccag  
 840  
 ccgcagggtc tgagctatgc ggaggacgag gctgagcacg agaacatgaa ggctgtgctg  
 900  
 aaaacctcgt cccctccag gaggccctg cacatacctt ctccatcgtg tcagctgtgt  
 960



ttctcttgat tccgtgacac ccggtttatt agttcaaaag tgtgacacct ttctctgggca  
 1020  
 aggaacagcc cctttaagga gcaaatcact tctgtcacag ttattatggt aatatgaggg  
 1080  
 aatctgatta gcttcacaga ctgagtctcc acaacaccaa aatatccaga tgtaaaccac  
 1140  
 aaacttgtag acaaaagaaa gcacagattg tttacctgtt gtggatttta gatgtaacaa  
 1200  
 atgtttatatac aaatacatatac atgtacacca tgtttcaaat actaaataaaa tagagttaa  
 1260  
 tgcc  
 1264

<210> 4370

<211> 322

<212> PRT

<213> Homo sapiens

<400> 4370

Ala	Gln	Leu	Ala	Asn	Pro	Glu	Ile	Pro	Leu	Gly	Ser	Ala	Glu	Gln	Phe
1			5					10					15		
Leu	Leu	Thr	Leu	Ser	Ser	Ile	Ser	Glu	Leu	Ser	Ala	Arg	Leu	His	Leu
			20					25					30		
Trp	Ala	Phe	Lys	Met	Asp	Tyr	Glu	Thr	Thr	Glu	Lys	Glu	Val	Ala	Glu
			35				40					45			
Pro	Leu	Leu	Asp	Leu	Lys	Glu	Gly	Ile	Asp	Gln	Leu	Glu	Asn	Asn	Lys
			50				55				60				
Thr	Leu	Gly	Phe	Ile	Leu	Ser	Thr	Leu	Leu	Ala	Ile	Gly	Asn	Phe	Leu
65					70					75				80	
Asn	Gly	Thr	Asn	Ala	Lys	Ala	Phe	Glu	Leu	Ser	Tyr	Leu	Glu	Lys	Val
			85					90					95		
Pro	Glu	Val	Lys	Asp	Thr	Val	His	Lys	Gln	Ser	Leu	Leu	His	His	Val
			100					105					110		
Cys	Thr	Met	Val	Val	Glu	Asn	Phe	Pro	Asp	Ser	Ser	Asp	Leu	Tyr	Ser
			115				120					125			
Glu	Ile	Gly	Ala	Ile	Thr	Arg	Ser	Ala	Lys	Val	Asp	Phe	Asp	Gln	Leu
			130				135				140				
Gln	Asp	Asn	Leu	Cys	Gln	Met	Glu	Arg	Arg	Cys	Lys	Ala	Ser	Trp	Asp
145					150					155				160	
His	Leu	Lys	Ala	Ile	Ala	Lys	His	Glu	Met	Lys	Pro	Val	Leu	Lys	Gln
			165					170					175		
Arg	Met	Ser	Glu	Phe	Leu	Lys	Asp	Cys	Ala	Glu	Arg	Ile	Ile	Ile	Leu
			180					185					190		
Lys	Ile	Val	His	Arg	Arg	Ile	Ile	Asn	Arg	Phe	His	Ser	Phe	Leu	Leu
			195					200				205			
Phe	Met	Gly	His	Pro	Pro	Tyr	Ala	Ile	Arg	Glu	Val	Asn	Ile	Asn	Lys
			210				215					220			
Phe	Cys	Arg	Ile	Ile	Ser	Glu	Phe	Ala	Leu	Glu	Tyr	Arg	Thr	Thr	Arg
225					230					235				240	
Glu	Arg	Val	Leu	Gln	Lys	Gln	Lys	Arg	Ala	Asn	His	Arg	Glu	Arg	
			245					250					255		
Asn	Lys	Thr	Arg	Gly	Lys	Met	Ile	Thr	Asp	Ser	Gly	Lys	Phe	Ser	Gly
			260					265					270		
Ser	Ser	Pro	Ala	Pro	Pro	Ser	Gln	Pro	Gln	Gly	Leu	Ser	Tyr	Ala	Glu

275	280	285
Asp Ala Ala Glu His Glu Asn Met Lys Ala Val Leu Lys Thr Ser Ser		
290	295	300
Pro Ser Arg Ser Pro Leu His Ile Pro Ser Pro Ser Cys Gln Leu Cys		
305	310	315
Phe Ser		320

&lt;210&gt; 4371

&lt;211&gt; 907

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4371

```

actttcaaaa tggcgggagtg tggagcgagc ggcagcggga gcagcgggga cagtctggac
60
aagagcatca cgctgcccc cgacgagatc ttccgcaacc tggagaacgc caagcgcttc
120
gccatcgaca taggcgggtc gttaaccaag ctggcctact attcaacggt acagcacaaa
180
gtcgccaagg tgcggtcttt cgaccactcc ggaaaggaca cagaacgtga acatgagccg
240
ccctatgaga tttcagttca agaagagatc actgctcgac tgcacttcac taagtttgag
300
aatacctaca tcgaagcctg cctggacttc atcaaagacc atctcgtcaa cacagagacc
360
aaggatcatcc aggcgaccgg gggcggggcc tacaagttca aggacctcat cgaagagaag
420
ctgcggctga aagtcgacaa ggaggacgtg atgacgtgcc tgattaaggg gtgcaacttc
480
gtgtcaaga acatccccc tgaggccttc gtgtaccaga aggattccga ccctgagttc
540
cggtttcaga ccaaccaccc ccacattttc ccctatcttc ttgtcaatat cggctctgga
600
gtctccatcg tgaaggtgga gacggaggac aggttcgagt gggtcggcgg cagctccatt
660
ggaggcggca ccttctgggg gcttggcgct ctgctcacca aaacgaagaa gtttgacgag
720
ctcctgcacc tggcctcgag gggccagcac agcaatgtgg acatgctggt gcgggacgtc
780
tacggcggcg ccaccagac tctcgggctg agcgggaacc tcatcgccag cagcttcggg
840
aagtcggcca ccgccgacca agagttctcc aaagaagaca tggcgaagag cctgctgcac
900
atgatca
907

```

&lt;210&gt; 4372

&lt;211&gt; 302

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4372

Thr Phe Lys Met Ala Glu Cys Gly Ala Ser Gly Ser Gly Ser Ser Gly

```

      1           5           10           15
Asp Ser Leu Asp Lys Ser Ile Thr Leu Pro Pro Asp Glu Ile Phe Arg
      20           25           30
Asn Leu Glu Asn Ala Lys Arg Phe Ala Ile Asp Ile Gly Gly Ser Leu
      35           40           45
Thr Lys Leu Ala Tyr Tyr Ser Thr Val Gln His Lys Val Ala Lys Val
      50           55           60
Arg Ser Phe Asp His Ser Gly Lys Asp Thr Glu Arg Glu His Glu Pro
      65           70           75           80
Pro Tyr Glu Ile Ser Val Gln Glu Glu Ile Thr Ala Arg Leu His Phe
      85           90           95
Ile Lys Phe Glu Asn Thr Tyr Ile Glu Ala Cys Leu Asp Phe Ile Lys
      100          105          110
Asp His Leu Val Asn Thr Glu Thr Lys Val Ile Gln Ala Thr Gly Gly
      115          120          125
Gly Ala Tyr Lys Phe Lys Asp Leu Ile Glu Glu Lys Leu Arg Leu Lys
      130          135          140
Val Asp Lys Glu Asp Val Met Thr Cys Leu Ile Lys Gly Cys Asn Phe
      145          150          155          160
Val Leu Lys Asn Ile Pro His Glu Ala Phe Val Tyr Gln Lys Asp Ser
      165          170          175
Asp Pro Glu Phe Arg Phe Gln Thr Asn His Pro His Ile Phe Pro Tyr
      180          185          190
Leu Leu Val Asn Ile Gly Ser Gly Val Ser Ile Val Lys Val Glu Thr
      195          200          205
Glu Asp Arg Phe Glu Trp Val Gly Gly Ser Ser Ile Gly Gly Gly Thr
      210          215          220
Phe Trp Gly Leu Gly Ala Leu Leu Thr Lys Thr Lys Lys Phe Asp Glu
      225          230          235          240
Leu Leu His Leu Ala Ser Arg Gly Gln His Ser Asn Val Asp Met Leu
      245          250          255
Val Arg Asp Val Tyr Gly Gly Ala His Gln Thr Leu Gly Leu Ser Gly
      260          265          270
Asn Leu Ile Ala Ser Ser Phe Gly Lys Ser Ala Thr Ala Asp Gln Glu
      275          280          285
Phe Ser Lys Glu Asp Met Ala Lys Ser Leu Leu His Met Ile
      290          295          300

```

&lt;210&gt; 4373

&lt;211&gt; 1017

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4373

```

acgcgtcatc acggctgcgc cgggggaatc cgtgcgggcg ccttcggtcc cgggtcccatc
60
ctgcgccgcg tccagcacct ctgaagtttt gcagcgccca gaaaggaggc gaggaaggag
120
ggagtgtgtg agaggaggga gcaaaaagct caccctaaaa catttatctc aaggagaaaa
180
gaaaaagggg gggcgcaaaa atggctgggg caattataga aaacatgagc accaagaagc
240
tgtgcattgt tgggtgggatt ctgctcgtgt tccaaatcat cgcttttctg gtgggaggct
300

```

tgattgctcc agggcccaca acggcagtggt cctacatgtc ggtgaaatgt gtggatgccc  
 360  
 gtaagaacca tcacaagaca aaatggttcg tgccttgggg acccaatcat tgtgacaaga  
 420  
 tccgagacat tgaagaggca attccaaggg aaattgaagc caatgacatc gtgttttctg  
 480  
 ttcacattcc cctccccac atggagatga gtccttgggt ccaattcatg ctgtttatcc  
 540  
 tgcagctgga cattgccttc aagctaaaca accaaatcag agaaaatgca gaagtctcca  
 600  
 tggacgtttc cctggcttac cgtgatgacg cgtttgctga gtggactgaa atggcccatg  
 660  
 aaagagtacc acggaaactc aaatgcacct tcacatctcc caagactcca gagcatgagg  
 720  
 gccgttacta tgaatgtgat gtccttcctt tcattggaat tgggtctgtg gcccataagt  
 780  
 tttacctttt aaacatccgg ctgcctgtga atgagaagaa gaaaatcaat gtgggaattg  
 840  
 gggagataaa ggatatccgg ttggtgggga tccacaaaaa tggaggcttc accaagggtg  
 900  
 ggtttgccat gaagaccttc cttacgcccc gcattctcat cattatggtg tggatttggg  
 960  
 ggaggatcac catgatgtcc cgacccccag tgcttctgga aaaagtcac tttgccc  
 1017

<210> 4374

<211> 272

<212> PRT

<213> Homo sapiens

<400> 4374

Met	Ala	Gly	Ala	Ile	Ile	Glu	Asn	Met	Ser	Thr	Lys	Lys	Leu	Cys	Ile
1				5					10					15	
Val	Gly	Gly	Ile	Leu	Leu	Val	Phe	Gln	Ile	Ile	Ala	Phe	Leu	Val	Gly
				20				25					30		
Gly	Leu	Ile	Ala	Pro	Gly	Pro	Thr	Thr	Ala	Val	Ser	Tyr	Met	Ser	Val
				35			40					45			
Lys	Cys	Val	Asp	Ala	Arg	Lys	Asn	His	His	Lys	Thr	Lys	Trp	Phe	Val
				50			55				60				
Pro	Trp	Gly	Pro	Asn	His	Cys	Asp	Lys	Ile	Arg	Asp	Ile	Glu	Glu	Ala
65					70				75					80	
Ile	Pro	Arg	Glu	Ile	Glu	Ala	Asn	Asp	Ile	Val	Phe	Ser	Val	His	Ile
				85					90					95	
Pro	Leu	Pro	His	Met	Glu	Met	Ser	Pro	Trp	Phe	Gln	Phe	Met	Leu	Phe
				100				105					110		
Ile	Leu	Gln	Leu	Asp	Ile	Ala	Phe	Lys	Leu	Asn	Asn	Gln	Ile	Arg	Glu
				115				120				125			
Asn	Ala	Glu	Val	Ser	Met	Asp	Val	Ser	Leu	Ala	Tyr	Arg	Asp	Asp	Ala
				130			135				140				
Phe	Ala	Glu	Trp	Thr	Glu	Met	Ala	His	Glu	Arg	Val	Pro	Arg	Lys	Leu
145					150				155					160	
Lys	Cys	Thr	Phe	Thr	Ser	Pro	Lys	Thr	Pro	Glu	His	Glu	Gly	Arg	Tyr
				165				170						175	
Tyr	Glu	Cys	Asp	Val	Leu	Pro	Phe	Met	Glu	Ile	Gly	Ser	Val	Ala	His

<400>	4375				
aagggtgacctg	cattgtatac	caccacgtcg	ggcagggtgct	cctggaggga	tttcttgatg
60					
ttcctctcca	ccttatccag	gtactcatca	tcctctgtgc	cccactccag	ctccaccttc
120					
cgctgacgg	ccagcttttg	gagggccggc	cccgggatgc	tacacacaac	ccagctgtac
180					
cagcatgtgc	cagagacacg	ctggccaatc	gtgtactcgc	cgcgctacaa	catcaccttc
240					
atgggcctgg	agaagctgca	tccctttgat	gccggaaaat	ggggcaaagt	gatcaatttc
300					
ctaaaagaag	agaagcttct	gtctgacagc	atgctggtgg	aggcgcgga	ggcctcggag
360					
gaggacctgc	tgggtggtgca	cacgaggcgc	tatcttaatg	agctcaagtg	gtcctttgct
420					
gttgctacca	tcacagaaat	ccccccggt	atcttctctc	ccaacttcct	tgtgcagagg
480					
aagggtgctga	ggcccccttcg	gacccagaca	ggaggaacca	taatggcggg	gaagctggct
540					
gtggagcgag	gctgggccat	caacgtgggg	ggtggcttcc	accactgctc	cagcgaccgt
600					
ggcgggggct	tctgtgccta	tgcggacatc	acgctcgcca	tcaagtttct	gtttgagcgt
660					
gtggagggca	tctccagggc	taccatcatt	gatcttgatg	cccatcaggg	caatgggcat
720					
gagcgagact	tcattggacga	caagtgtgtg	acatgcatgg	atgtctacaa	ccgccacatc
780					
taccagggg	accgctttgc	caagcaggcc	atcaggcgga	aggtggagct	ggagtggggc
840					
acagaggatg	atgagtacct	ggataagggtg	gagaggaaca	tcaagaaatc	cctccaggag
900					
cacctgcccc	acgtggtggt	atacaatgca	ggcaccgaca	tcctcgaggg	ggaccgcctt
960					
ggggggctgt	ccatcagccc	agcgggcac	gtgaagcggg	atgagctggt	gttccggatg
1020					
gtccgtggcc	gccgggtgcc	catccttatg	gtgacctcag	gcgggtacca	gaagcgcaca
1080					

gcccgcatca ttgctgactc cataacttaat ctgtttggcc tggggctcat tgggcctgag  
 1140  
 tcacccagcg tctccgcaca gaactcagac acaccgctgc tccccctgc agtgcctga  
 1200  
 cccctgctgc cctgcctgtc acgtggccct gcctatccgc cccttagtgc tttttgtttt  
 1260  
 ctaacctcat ggggtggtgg aggcagcctt cagttagcat ggaggggagc ggccatccct  
 1320  
 ggctggggcc tggagctggc ccttcctcta cttttccctg ctggaagcca gaaggccttg  
 1380  
 aggcctctat ggggtggggc agaaagcaga gcctgtgtcc caggggaccc acacgaagtc  
 1440  
 accagcccat aggtccaggg aggcaggcag ttaactgaga attggagagg acaggctagg  
 1500  
 tcccaggcac agcgagggcc ctgggcttgg ggtgttctgg ttttgagaac ggcagaccca  
 1560  
 ggtcggagtg aggaagcttc cacctccatc ctgactaggc ctgcatacta actgggcctc  
 1620  
 cctccctccc cttgggtcatg ggatttgctg ccctctttgc cccagagctg aagagctata  
 1680  
 ggcactggtg tggatggccc aggaggtgct ggagctaggt ctccaggtgg gcctggttcc  
 1740  
 caggcagcag gtgggaaccc tgggcctgga tgtgaggggc ggtcaggaag gggtagaggt  
 1800  
 gggttccctc atctggagtt cccctcaat aaagcaaggt ctggacctgc cttccaggc  
 1860  
 cttctgtggt ggggtgaaggt ggggaaggcc tgcggcgccc agatcactgc cttagcagta  
 1920  
 gtcttgccctg ttcagtgcaa ggggcaggtt ttggggggag gaattc  
 1966

&lt;210&gt; 4376

&lt;211&gt; 399

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4376

Lys	Val	Pro	Ala	Leu	Tyr	Thr	Thr	Thr	Ser	Gly	Arg	Cys	Ser	Trp	Arg
1				5					10					15	
Asp	Phe	Leu	Met	Phe	Leu	Ser	Thr	Leu	Ser	Arg	Tyr	Ser	Ser	Ser	Ser
		20						25					30		
Val	Pro	His	Ser	Ser	Ser	Thr	Phe	Arg	Leu	Thr	Ala	Ser	Phe	Gly	Arg
		35					40					45			
Ala	Gly	Pro	Gly	Met	Leu	His	Thr	Thr	Gln	Leu	Tyr	Gln	His	Val	Pro
		50				55					60				
Glu	Thr	Arg	Trp	Pro	Ile	Val	Tyr	Ser	Pro	Arg	Tyr	Asn	Ile	Thr	Phe
65					70					75				80	
Met	Gly	Leu	Glu	Lys	Leu	His	Pro	Phe	Asp	Ala	Gly	Lys	Trp	Gly	Lys
				85					90					95	
Val	Ile	Asn	Phe	Leu	Lys	Glu	Glu	Lys	Leu	Leu	Ser	Asp	Ser	Met	Leu
			100					105					110		
Val	Glu	Ala	Arg	Glu	Ala	Ser	Glu	Glu	Asp	Leu	Leu	Val	Val	His	Thr
		115					120					125			
Arg	Arg	Tyr	Leu	Asn	Glu	Leu	Lys	Trp	Ser	Phe	Ala	Val	Ala	Thr	Ile

130		135		140
Thr Glu Ile Pro Pro Val Ile Phe Leu Pro Asn Phe Leu Val Gln Arg				
145		150		155
Lys Val Leu Arg Pro Leu Arg Thr Gln Thr Gly Gly Thr Ile Met Ala				
	165		170	175
Gly Lys Leu Ala Val Glu Arg Gly Trp Ala Ile Asn Val Gly Gly Gly				
	180		185	190
Phe His His Cys Ser Ser Asp Arg Gly Gly Gly Phe Cys Ala Tyr Ala				
	195		200	205
Asp Ile Thr Leu Ala Ile Lys Phe Leu Phe Glu Arg Val Glu Gly Ile				
	210		215	220
Ser Arg Ala Thr Ile Ile Asp Leu Asp Ala His Gln Gly Asn Gly His				
225		230		235
Glu Arg Asp Phe Met Asp Asp Lys Cys Val Thr Cys Met Asp Val Tyr				
	245		250	255
Asn Arg His Ile Tyr Pro Gly Asp Arg Phe Ala Lys Gln Ala Ile Arg				
	260		265	270
Arg Lys Val Glu Leu Glu Trp Gly Thr Glu Asp Asp Glu Tyr Leu Asp				
	275		280	285
Lys Val Glu Arg Asn Ile Lys Lys Ser Leu Gln Glu His Leu Pro Asp				
	290		295	300
Val Val Val Tyr Asn Ala Gly Thr Asp Ile Leu Glu Gly Asp Arg Leu				
305		310		315
Gly Gly Leu Ser Ile Ser Pro Ala Gly Ile Val Lys Arg Asp Glu Leu				
	325		330	335
Val Phe Arg Met Val Arg Gly Arg Arg Val Pro Ile Leu Met Val Thr				
	340		345	350
Ser Gly Gly Tyr Gln Lys Arg Thr Ala Arg Ile Ile Ala Asp Ser Ile				
	355		360	365
Leu Asn Leu Phe Gly Leu Gly Leu Ile Gly Pro Glu Ser Pro Ser Val				
	370		375	380
Ser Ala Gln Asn Ser Asp Thr Pro Leu Leu Pro Pro Ala Val Pro				
385		390		395

&lt;210&gt; 4377

&lt;211&gt; 812

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4377

ntcctgggga ggccgtgccc cccatggcga ggccggcgag agcagggcct gcttcccccc  
60

gaggacagcc gcctgtggca gtatcttctg agccgctcca tgcgggagca cccggcgctg  
120

cgaagcctga ggctgctgac cctggagcag ccgcaggggg attctatgat gacctgcgag  
180

caggcccagc tcttggccaa cctggcgcggt ctcattccagg ccaagaaggc gctggacctg  
240

ggcaccttca cgggctactc cgccctggcc ctggccctgg cgctgcccgc ggacggggcg  
300

gtggtgacct gcgaggtgga cgcgcagccc ccggagctgg gacggcccct gtggaggcag  
360

gccgagggcg agcacaagat tcgactccgg ctgaagcccg ccttggagac cctggacgag  
420

ctgctggcgg cgggcgaggg cggcaccttc gacgtggccg tgggtggatgc ggacaaggag  
 480  
 aactgctccg cctactacga gcgctgcctg cagctgctgc gacccggagg catcctcgcc  
 540  
 gtccctcagag tcctgtggcg cgggaagggtg ctgcaacctc cgaaagggga cgtggcgggc  
 600  
 gagtgtgtgc gaaacctaata cgaacgcata cggcggggacg tcagggtcta catcagcctc  
 660  
 ctgcccctgg gcgatggact caccttggcc ttcaagatct agggctggcc cctagtgagt  
 720  
 gggctcgagg gagggttgcc tgggaacccc aggaattgac cctgagtttt aaattcgaaa  
 780  
 ataaagtggg gctggggacac acgaaaaaaaa aa  
 812

&lt;210&gt; 4378

&lt;211&gt; 233

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4378

Xaa	Leu	Gly	Arg	Arg	Cys	Pro	Pro	Trp	Arg	Gly	Arg	Arg	Glu	Gln	Gly
1				5					10					15	
Leu	Leu	Pro	Pro	Glu	Asp	Ser	Arg	Leu	Trp	Gln	Tyr	Leu	Leu	Ser	Arg
			20					25					30		
Ser	Met	Arg	Glu	His	Pro	Ala	Leu	Arg	Ser	Leu	Arg	Leu	Leu	Thr	Leu
		35					40					45			
Glu	Gln	Pro	Gln	Gly	Asp	Ser	Met	Met	Thr	Cys	Glu	Gln	Ala	Gln	Leu
	50					55					60				
Leu	Ala	Asn	Leu	Ala	Arg	Leu	Ile	Gln	Ala	Lys	Lys	Ala	Leu	Asp	Leu
65					70				75					80	
Gly	Thr	Phe	Thr	Gly	Tyr	Ser	Ala	Leu	Ala	Leu	Ala	Leu	Ala	Leu	Pro
			85					90						95	
Ala	Asp	Gly	Arg	Val	Val	Thr	Cys	Glu	Val	Asp	Ala	Gln	Pro	Pro	Glu
			100					105					110		
Leu	Gly	Arg	Pro	Leu	Trp	Arg	Gln	Ala	Glu	Ala	Glu	His	Lys	Ile	Arg
	115					120						125			
Leu	Arg	Leu	Lys	Pro	Ala	Leu	Glu	Thr	Leu	Asp	Glu	Leu	Leu	Ala	Ala
	130					135					140				
Gly	Glu	Ala	Gly	Thr	Phe	Asp	Val	Ala	Val	Val	Asp	Ala	Asp	Lys	Glu
145					150					155					160
Asn	Cys	Ser	Ala	Tyr	Tyr	Glu	Arg	Cys	Leu	Gln	Leu	Leu	Arg	Pro	Gly
			165					170						175	
Gly	Ile	Leu	Ala	Val	Leu	Arg	Val	Leu	Trp	Arg	Gly	Lys	Val	Leu	Gln
	180							185					190		
Pro	Pro	Lys	Gly	Asp	Val	Ala	Ala	Glu	Cys	Val	Arg	Asn	Leu	Asn	Glu
		195				200						205			
Arg	Ile	Arg	Arg	Asp	Val	Arg	Val	Tyr	Ile	Ser	Leu	Leu	Pro	Leu	Gly
	210				215						220				
Asp	Gly	Leu	Thr	Leu	Ala	Phe	Lys	Ile							
225					230										

&lt;210&gt; 4379

&lt;211&gt; 2347



&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4379

ngaggaccaa gccatgcgtg cctttgagct aatgaggagc aacgcggccc tgttccagct  
60  
gggctcggcc ccgcggtgtg ctggattgtg tgcacgactc tgaagctgca gatggagaag  
120  
ggggaggacc cggccccac ctgcctcacc cgcacggggc tgttcctgcg tttcctctgc  
180  
agccggttcc cgcggggcgc acagctgcgg ggcgcgctgc ggacgctgag cctcctggcc  
240  
gcgcagggcc tgtgggcgca gacgtccgtg cttcaccgag aggatctgga aaggctcggg  
300  
gtgcaggagt ccgacctcg tctgttcctg gacggagaca tcctccgcca ggacagagtc  
360  
tccaaaggct gctactcctt catccacctc agcttcacgc agtttctcac tgccctgttc  
420  
tacaccctgg agaaggagga ggaagaggat agggacggcc acacctggga cattggggac  
480  
gtacagaagc tgctttccgg agtagaaaga ctcaggaacc ccgacctgat ccaagcaggc  
540  
tactactcct ttggcctcgc taacgagaag agagccaagg agttggaggc cacttttggc  
600  
tgccgatgt caccggacat caaacaggaa ttgctcgcat gcgacataag ttgtaagggc  
660  
ggacattcaa cggtgacaga cctgcaggag ctgctcggct gtctgtacga gtctcaggag  
720  
gaggagctgg tgaaggaggc gatggctcag ttcaaagaaa tatccctgca cttaaagtca  
780  
gtagacgttg tgccatcttc attctgcgtc aagcactgtc gaaacctgca gaaaatgtca  
840  
ctgcaggtaa taaaggagaa tctcccgag aatgtcactg cgtctgaatc agacgccgag  
900  
gttgagagat ccaggatga tcagcacatg cttcctttct ggacggacct ttgtccata  
960  
tttgatcaa ataaggatct gatgggtcta gcaatcaatg atagctttct cagtgcctcc  
1020  
ctagtaagga tcctgtgtga acaaatagcc tctgacacct gtcactcca gagagtgggtg  
1080  
ttcaaaaaaca tttccccagc tgatgctcat cggaacctcn tgcctnnagc tcttcagggt  
1140  
cacaagactg taacgtatct gaccttcaa ggcaatgacc aggatgatat gtttcccgca  
1200  
ttgtgtgagg tcttgagaca tccagaatgt aacctgcgat atctcgggtt ggtgtcttgt  
1260  
tccgctacca ctcagcagtg ggctgatctc tccttgcccc ttgaagtcaa ccagtccctg  
1320  
acgtgcgtaa acctctccga caatgagctt ctggatgagg gtgctaagtt gctgtacaca  
1380  
actttgagac accccaagtg ctttctgcag aggttgtcgt tggaaaactg tcaccttaca  
1440  
gaagccaatt gcaaggacct tgctgctgtg ttggtgtca gccgggagct gacacacctg  
1500

tgcttggecca agaaccatc tgggaatata ggggtgaagt ttctgtgtga gggcttgagg  
 1560  
 taccctcgagt gtaaactgca gaccttggtg ctttggaact gcgacataac tagcgatggc  
 1620  
 tgctgcgac tcacaaagct tctccaagaa aaatcaagcc tgttgtgttt ggatctgggg  
 1680  
 ctgaatcaca taggagttaa gggaatgaag ttctgtgtg aggccttgag gaaaccactg  
 1740  
 tgcaacttga gatgtctgtg gttgtgggga tgttccatcc ctccgttcag ttgtgaagac  
 1800  
 gtctgctctg ccctcagctg caaccagagc ctctgctactc tggacctggg tcagaatccc  
 1860  
 ttgggggtcta gtggagtga gatgctgttt gaaaccttga catgttccag tggcaccctc  
 1920  
 cggacactca ggttgaaaat agatgacttt aatgatgaac tcaataagct gctggaagaa  
 1980  
 atagaagaaa aaaaccaca actgattatt gatactgaga aacatcatcc ctgggaagaa  
 2040  
 aggccttctt ctcatgactt catgatctga atcccccca gtcattcatt ctccatgaag  
 2100  
 tcatcgattt tccaggtgtg ggtgaactgc ctgtgactcc tctctctccc cgccctacc  
 2160  
 cctcagggat aatgagttca ttgctgggct agatgtttta gccatgatcc tgcctctgtt  
 2220  
 ttatacctgc acacatcctt atctttgtta catatgaaat atctgtatca cgggtatatt  
 2280  
 gagagaaata aaggtgagag cattcacaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa  
 2340  
 aaaaaaa  
 2347

&lt;210&gt; 4380

&lt;211&gt; 652

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4380

Met	Glu	Lys	Gly	Glu	Asp	Pro	Val	Pro	Thr	Cys	Leu	Thr	Arg	Thr	Gly
1				5					10					15	
Leu	Phe	Leu	Arg	Phe	Leu	Cys	Ser	Arg	Phe	Pro	Arg	Gly	Ala	Gln	Leu
			20					25					30		
Arg	Gly	Ala	Leu	Arg	Thr	Leu	Ser	Leu	Leu	Ala	Ala	Gln	Gly	Leu	Trp
		35					40					45			
Ala	Gln	Thr	Ser	Val	Leu	His	Arg	Glu	Asp	Leu	Glu	Arg	Leu	Gly	Val
		50				55					60				
Gln	Glu	Ser	Asp	Leu	Arg	Leu	Phe	Leu	Asp	Gly	Asp	Ile	Leu	Arg	Gln
65					70					75				80	
Asp	Arg	Val	Ser	Lys	Gly	Cys	Tyr	Ser	Phe	Ile	His	Leu	Ser	Phe	Gln
				85					90					95	
Gln	Phe	Leu	Thr	Ala	Leu	Phe	Tyr	Thr	Leu	Glu	Lys	Glu	Glu	Glu	Glu
			100					105					110		
Asp	Arg	Asp	Gly	His	Thr	Trp	Asp	Ile	Gly	Asp	Val	Gln	Lys	Leu	Leu
		115					120					125			
Ser	Gly	Val	Glu	Arg	Leu	Arg	Asn	Pro	Asp	Leu	Ile	Gln	Ala	Gly	Tyr

130		135		140
Tyr Ser Phe Gly Leu Ala Asn Glu Lys Arg Ala Lys Glu Leu Glu Ala				
145		150		155
Thr Phe Gly Cys Arg Met Ser Pro Asp Ile Lys Gln Glu Leu Leu Arg				160
	165		170	175
Cys Asp Ile Ser Cys Lys Gly Gly His Ser Thr Val Thr Asp Leu Gln				
	180		185	190
Glu Leu Leu Gly Cys Leu Tyr Glu Ser Gln Glu Glu Glu Leu Val Lys				
	195		200	205
Glu Val Met Ala Gln Phe Lys Glu Ile Ser Leu His Leu Asn Ala Val				
	210		215	220
Asp Val Val Pro Ser Ser Phe Cys Val Lys His Cys Arg Asn Leu Gln				
225		230		235
Lys Met Ser Leu Gln Val Ile Lys Glu Asn Leu Pro Glu Asn Val Thr				240
	245		250	255
Ala Ser Glu Ser Asp Ala Glu Val Glu Arg Ser Gln Asp Asp Gln His				
	260		265	270
Met Leu Pro Phe Trp Thr Asp Leu Cys Ser Ile Phe Gly Ser Asn Lys				
	275		280	285
Asp Leu Met Gly Leu Ala Ile Asn Asp Ser Phe Leu Ser Ala Ser Leu				
	290		295	300
Val Arg Ile Leu Cys Glu Gln Ile Ala Ser Asp Thr Cys His Leu Gln				
305		310		315
Arg Val Val Phe Lys Asn Ile Ser Pro Ala Asp Ala His Arg Asn Leu				320
	325		330	335
Xaa Pro Xaa Ala Leu Arg Gly His Lys Thr Val Thr Tyr Leu Thr Leu				
	340		345	350
Gln Gly Asn Asp Gln Asp Asp Met Phe Pro Ala Leu Cys Glu Val Leu				
	355		360	365
Arg His Pro Glu Cys Asn Leu Arg Tyr Leu Gly Leu Val Ser Cys Ser				
	370		375	380
Ala Thr Thr Gln Gln Trp Ala Asp Leu Ser Leu Ala Leu Glu Val Asn				
385		390		395
Gln Ser Leu Thr Cys Val Asn Leu Ser Asp Asn Glu Leu Leu Asp Glu				
	405		410	415
Gly Ala Lys Leu Leu Tyr Thr Thr Leu Arg His Pro Lys Cys Phe Leu				
	420		425	430
Gln Arg Leu Ser Leu Glu Asn Cys His Leu Thr Glu Ala Asn Cys Lys				
	435		440	445
Asp Leu Ala Ala Val Leu Val Val Ser Arg Glu Leu Thr His Leu Cys				
	450		455	460
Leu Ala Lys Asn Pro Ile Gly Asn Thr Gly Val Lys Phe Leu Cys Glu				
465		470		475
Gly Leu Arg Tyr Pro Glu Cys Lys Leu Gln Thr Leu Val Leu Trp Asn				
	485		490	495
Cys Asp Ile Thr Ser Asp Gly Cys Cys Asp Leu Thr Lys Leu Leu Gln				
	500		505	510
Glu Lys Ser Ser Leu Leu Cys Leu Asp Leu Gly Leu Asn His Ile Gly				
	515		520	525
Val Lys Gly Met Lys Phe Leu Cys Glu Ala Leu Arg Lys Pro Leu Cys				
	530		535	540
Asn Leu Arg Cys Leu Trp Leu Trp Gly Cys Ser Ile Pro Pro Phe Ser				
545		550		555
Cys Glu Asp Val Cys Ser Ala Leu Ser Cys Asn Gln Ser Leu Val Thr				560

				565						570						575			
Leu	Asp	Leu	Gly	Gln	Asn	Pro	Leu	Gly	Ser	Ser	Gly	Val	Lys	Met	Leu				
			580						585					590					
Phe	Glu	Thr	Leu	Thr	Cys	Ser	Ser	Gly	Thr	Leu	Arg	Thr	Leu	Arg	Leu				
		595					600					605							
Lys	Ile	Asp	Asp	Phe	Asn	Asp	Glu	Leu	Asn	Lys	Leu	Leu	Glu	Glu	Ile				
	610					615					620								
Glu	Glu	Lys	Asn	Pro	Gln	Leu	Ile	Ile	Asp	Thr	Glu	Lys	His	His	Pro				
625					630					635					640				
Trp	Glu	Glu	Arg	Pro	Ser	Ser	His	Asp	Phe	Met	Ile								
			645						650										

&lt;210&gt; 4381

&lt;211&gt; 1638

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4381

```

nnagagcccg gggcgagtgg gcctctgctc gtgggtggtt ctcgtggagg tcagctcccc
60
cgtgtctccg ctgcacaggg tgcttgggca gagcccatcg ggtaggcgcg ggccatggcg
120
cagtacaagg gcacatgctg cgaggcaggg cgtgccatgc acctcctcaa gaagcgcgaa
180
aggcagcggg agcagatgga ggtgctgaag cagcgcatcg ccgaggagac catcctcaag
240
tcgcaggtgg acaagaggtt ctggcgcat tacgacgccg tggaggccga gctgaagtcc
300
agcgcggtgg gcctggtgac cctgaacgac atgaaggccc ggcaggaggc cctggtcagg
360
gagcgcgagc ggcagctggc caagcgccag cacctggagg agcagcggct gcagcaggag
420
cggcagcggg agcaggagca gcggcgcgag cgcaagcgta agatctcctg cctgtccttt
480
gcactagacg acctcgatga ccaggccgac gcggccgagg ccaggcgcgc cggaaacctg
540
ggcaagaacc ccgacgtgga caccagcttc ctgccagacc gcgaccgcca ggaggaggag
600
aaccggctcc gagaggagct gcgccaagag tgggaggcg cgcgcgagaa agtgaaggac
660
gaggagatgg aggtcacctt cagctactgg gacggctcgg gccaccggcg cacggtgcgg
720
gtgcgcaagg gcaacacggt gcagcagttc ctgaagaagg cgctgcaggg gctgcgcaag
780
gacttcctgg agctgcgctc cgccggcgtg gagcagctca tggtcatcaa ggaggacctc
840
atcctgccgc actaccacac cttctacgac ttcatcatcg ccaggggcag gggcaagagc
900
gggccgctct tcagcttcca tgtgcacgat gacgtgcgcc tgctcagcga cgccaccatg
960
gagaaggacg agtcgcacgc gggcaagggt gtgctgcgca gctggtacga gaagaacaag
1020
cacatcttcc ccgccagccg ctgggaggcc tatgaccccc agaagaagtg ggacaagtac
1080

```

accatccgct aacacccgcc tgccagagcg gaaaccgggg gtggggggag acactcattt  
 1140  
 ctaggccccca tcaccagtca cttgatttcg tgacctgat ttcttcccc aaatttaata  
 1200  
 aagacagagg gttctcatga ttcacattgg ttgtgctatt gctgatgtta tgctttgggt  
 1260  
 gcttggttgg tcttttctga gtattttagt gttgccacct ggatttgctg cattgctctg  
 1320  
 ctgagctgta ttgaaacat gactggggccc actgtcagac agaaattaga ataggaggca  
 1380  
 cattttttac ctgggtggta tgagcatgga cttgggggcc acagtgactg agtttgatc  
 1440  
 ccgacacagc ctctctcttg ctgtgtagtt ttgggtaagc ttattaaacc cccatgcctc  
 1500  
 agtttgggtca cctgtaaaag gaaataacaa gagcacttac ttataagat tgatgtgagt  
 1560  
 attaagtga ttaatatctg taaaacgctt agctcttaaat aaatgtttct gttgttatta  
 1620  
 aaaaaaaaaa aaaaaaaaa  
 1638

&lt;210&gt; 4382

&lt;211&gt; 325

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4382

Met	Ala	Gln	Tyr	Lys	Gly	Thr	Met	Arg	Glu	Ala	Gly	Arg	Ala	Met	His
1				5					10					15	
Leu	Leu	Lys	Lys	Arg	Glu	Arg	Gln	Arg	Glu	Gln	Met	Glu	Val	Leu	Lys
		20					25					30			
Gln	Arg	Ile	Ala	Glu	Glu	Thr	Ile	Leu	Lys	Ser	Gln	Val	Asp	Lys	Arg
	35					40						45			
Phe	Ser	Ala	His	Tyr	Asp	Ala	Val	Glu	Ala	Glu	Leu	Lys	Ser	Ser	Ala
	50					55					60				
Val	Gly	Leu	Val	Thr	Leu	Asn	Asp	Met	Lys	Ala	Arg	Gln	Glu	Ala	Leu
65					70					75				80	
Val	Arg	Glu	Arg	Glu	Arg	Gln	Leu	Ala	Lys	Arg	Gln	His	Leu	Glu	Glu
			85						90					95	
Gln	Arg	Leu	Gln	Gln	Glu	Arg	Gln	Arg	Glu	Gln	Glu	Gln	Arg	Arg	Glu
		100					105						110		
Arg	Lys	Arg	Lys	Ile	Ser	Cys	Leu	Ser	Phe	Ala	Leu	Asp	Asp	Leu	Asp
	115					120						125			
Asp	Gln	Ala	Asp	Ala	Ala	Glu	Ala	Arg	Arg	Ala	Gly	Asn	Leu	Gly	Lys
	130					135					140				
Asn	Pro	Asp	Val	Asp	Thr	Ser	Phe	Leu	Pro	Asp	Arg	Asp	Arg	Glu	Glu
145					150					155				160	
Glu	Glu	Asn	Arg	Leu	Arg	Glu	Glu	Leu	Arg	Gln	Glu	Trp	Glu	Ala	Gln
			165						170					175	
Arg	Glu	Lys	Val	Lys	Asp	Glu	Glu	Met	Glu	Val	Thr	Phe	Ser	Tyr	Trp
		180						185					190		
Asp	Gly	Ser	Gly	His	Arg	Arg	Thr	Val	Arg	Val	Arg	Lys	Gly	Asn	Thr
	195						200					205			
Val	Gln	Gln	Phe	Leu	Lys	Lys	Ala	Leu	Gln	Gly	Leu	Arg	Lys	Asp	Phe

```

      210              215              220
Leu Glu Leu Arg Ser Ala Gly Val Glu Gln Leu Met Phe Ile Lys Glu
225              230              235              240
Asp Leu Ile Leu Pro His Tyr His Thr Phe Tyr Asp Phe Ile Ile Ala
      245              250              255
Arg Ala Arg Gly Lys Ser Gly Pro Leu Phe Ser Phe Asp Val His Asp
      260              265              270
Asp Val Arg Leu Leu Ser Asp Ala Thr Met Glu Lys Asp Glu Ser His
      275              280              285
Ala Gly Lys Val Val Leu Arg Ser Trp Tyr Glu Lys Asn Lys His Ile
      290              295              300
Phe Pro Ala Ser Arg Trp Glu Ala Tyr Asp Pro Glu Lys Lys Trp Asp
305              310              315              320
Lys Tyr Thr Ile Arg
      325

```

&lt;210&gt; 4383

&lt;211&gt; 419

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4383

```

cgagatctgg cgtgttttat acagtttgaa aatgtcaaca ttactatgg gactcagcat
60
aaaatgaaat ataaagcgcc cactgactat tgctttgttt taaagcacc ccaaattcag
120
aaggagtccc agtatatcaa gtatctctgc tgtgatgaca caagaaccct taaccagtgg
180
gtcatgggaa tacggatagc caagtatggg aagactctct atgataacta ccagcgggct
240
gtggcaaagg ctggacttgc ctctcgggtg acaaacttgg ggacagtcaa tgcagctgca
300
ccagctcagc catttacagg acctaaaaca ggcaccaccc agcccaatgg acagattccc
360
caggctacac atttcttcag tgctgttctc caagaagccc agagacatgc tgaaaactn
419

```

&lt;210&gt; 4384

&lt;211&gt; 139

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4384

```

Arg Asp Leu Ala Cys Phe Ile Gln Phe Glu Asn Val Asn Ile Tyr Tyr
1      5      10      15
Gly Thr Gln His Lys Met Lys Tyr Lys Ala Pro Thr Asp Tyr Cys Phe
      20      25      30
Val Leu Lys His Pro Gln Ile Gln Lys Glu Ser Gln Tyr Ile Lys Tyr
      35      40      45
Leu Cys Cys Asp Asp Thr Arg Thr Leu Asn Gln Trp Val Met Gly Ile
      50      55      60
Arg Ile Ala Lys Tyr Gly Lys Thr Leu Tyr Asp Asn Tyr Gln Arg Ala
      65      70      75      80
Val Ala Lys Ala Gly Leu Ala Ser Arg Trp Thr Asn Leu Gly Thr Val

```

```

      85          90          95
Asn Ala Ala Ala Pro Ala Gln Pro Phe Thr Gly Pro Lys Thr Gly Thr
      100          105          110
Thr Gln Pro Asn Gly Gln Ile Pro Gln Ala Thr His Phe Phe Ser Ala
      115          120          125
Val Leu Gln Glu Ala Gln Arg His Ala Glu Asn
      130          135

```

&lt;210&gt; 4385

&lt;211&gt; 754

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4385

```

ntttagagga gggctctgggc tagtttattt tctctctgga ggggtcttca gggagagcag
60
tccccgctgc tcaagcgggt gggaaggagc ggccactctt gctgaaaggt ggctgggaga
120
ggctcctggtc agagtcggag tcagagtcctc aggaggggag tggagggctc aggcactggc
180
gccccctgtg gcctcttagg ctcgaggcct tgggacaggc ccccgagcac aaagtgagggc
240
tgtctatgga gttctgcagc acgtgcacag cagaccatat atcactcagt tccttctgga
300
ggtcacccct ccagcagcca ctggctccct gcggtatctc ttcagtctcc ggacaggcgg
360
ctgtctcatg accctgctgc ttcactcttg tcaggatttt gcggcatttc acctgcgttt
420
tctgcatttt ctgaatgttc accaagttct ctgagatctc atcctcctgc gcttcttcaa
480
gctgctgaat cttgatttgc tgcaagcagc tctccttctc caacatggtc actgagtggc
540
tcaggaactc gaaagccttg gtctgggcct gtaactggct cttgagtgc ccaagttcac
600
atcgaggag cttctgggag tcgggaatca tcacaatggc cttggctttg actttggaag
660
agctggtctc caagggttc acataccacc tgttcatgct ctcccatcag ggaccacgaa
720
gaaagtcctc agctgtgacg ctgaagtttg atca
754

```

&lt;210&gt; 4386

&lt;211&gt; 85

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4386

```

Gly Cys Leu Trp Ser Ser Ala Ala Arg Ala Gln Gln Thr Ile Tyr His
1          5          10          15
Ser Val Pro Ser Gly Gly His Pro Ser Ser Ser His Trp Leu Pro Ala
20          25          30
Val Ser Leu Gln Ser Pro Asp Arg Arg Leu Ser His Asp Pro Ala Ala
35          40          45
Ser Ser Trp Ser Gly Phe Cys Gly Ile Ser Pro Ala Phe Ser Ala Phe

```

50                      55                      60  
 Ser Glu Cys Ser Pro Ser Ser Leu Arg Ser His Pro Pro Ala Leu Leu  
 65                      70                      75                      80  
 Gln Ala Ala Glu Ser  
                     85

<210> 4387

<211> 341

<212> DNA

<213> Homo sapiens

<400> 4387

gggggggggcc ttcccatctt tttccctttt atggggggggg ggttttttaa aaaaaaaggg  
 60  
 gggccccccc aaaagggggg ggggggaagg gggttttccc accccaaaaa accccccccc  
 120  
 cccccgggn gggggggaag gggggggggg tttttcccc ctccccccc ccctaaaaa  
 180  
 aaaaccgga aaattttttt tcccccccc ccaaaaaaa aaaaaaaacc ggggggcccc  
 240  
 cctttttttg gggggggggg tttttttttt tttttttttt tttttttttt ttttttttac  
 300  
 aaaacagaga atgtttattg tgccagaggg tggagtgtgc n  
 341

<210> 4388

<211> 113

<212> PRT

<213> Homo sapiens

<400> 4388

Gly Gly Gly Leu Pro Ile Phe Phe Pro Phe Met Gly Gly Gly Phe Phe  
 1                      5                      10                      15  
 Lys Lys Lys Gly Gly Pro Pro Gln Lys Gly Gly Gly Arg Gly Phe  
                     20                      25                      30  
 Ser His Pro Lys Lys Pro Pro Pro Pro Gly Xaa Gly Gly Arg Gly  
                     35                      40                      45  
 Gly Gly Phe Phe Pro Pro Pro Pro Pro Lys Lys Lys Thr Arg Lys  
                     50                      55                      60  
 Ile Phe Phe Pro Pro Pro Pro Lys Lys Lys Lys Lys Pro Gly Gly Pro  
 65                      70                      75                      80  
 Pro Phe Phe Gly Gly Gly Phe Phe Phe Phe Phe Phe Phe Phe  
                     85                      90                      95  
 Phe Phe Phe Tyr Lys Thr Glu Asn Val Tyr Cys Ala Arg Gly Trp Ser  
                     100                      105                      110  
 Val

<210> 4389

<211> 1895

<212> DNA

<213> Homo sapiens

<400> 4389



nggtgttttg cgggctgccg tacagcgaag agcgcgtgct gaagagttgc gcgtggcgtg  
60  
gctgccgagg gccgcgcggt gtacgtggtg gacgacgcag ctgtcctggg cgagaggac  
120  
ccagcgggtg acggcgattc tgcccgtgag aaggcattgc gtggagctct gcgagcctcc  
180  
gtggaacgac gcctgagtcg ccacgacgtc gtcacctctg actcgcttaa ctacatcaaa  
240  
ggtttccgtt acgagctcta ctgcctggca cgggcggcgc gcaccccgct ctgcctggtc  
300  
tactgcgtac ggccccggcg ccgcatcgcg ggacctcagg tggcgggcgc gaacgagaac  
360  
cctggccgga acgtcagtggt gagttggcgg ccacgcgctg aggaggacgg gagagccag  
420  
gcggcgggca gcagcgtcct cagggaaactg catactgcgg actctgtagt aaatggaagt  
480  
gcccaggccg acgtacccaa ggaactggag cgagaagaat ccggggctgc ggagtctcca  
540  
gctcttgatga ctccggattc agagaaatct gcaaagcatg ggtccggctgc cttttactct  
600  
cccgaactcc tggaggccct aacgctgcgc tttgaggtc cagattctcg gaatcgctgg  
660  
gaccggcctt tattcacttt ggtgggcata gaggagccgt tgcccccggc ggggatccgc  
720  
tctgccctgt ttgagaaccg ggccccacca ccccatcagt ctacgcagtc ccagcccctc  
780  
gcctccggca gctttctgca ccagttggac caggtcacga gtcaagtact ggccggattg  
840  
atggaagcgc agaagagcgc tgtccccggg gacttgctca cgcttcctgg taccacagag  
900  
cacttgccgt ttaccgggcc cttgaccatg gcagaactga gtcgccttcg tcgccagttt  
960  
atttcgtaca ctaaaatgca tcccaacaat gagaacttgc cgcaactggc caacatgttt  
1020  
cttcagtatt tgagccagag cctgcactaa ccagaggagg taggggggaa gccatggctt  
1080  
ctgatctcca ctccacttta tttctctggg aaaaataggc tgcaggcttc cagagcatat  
1140  
cgatgcagta ctgtactaga gctgttgatga ctgattcact caaactttcc tgcatacccc  
1200  
tgtgccaggc cttgggttta cagcataagt tcagactaaa gagaatggag aactattgtg  
1260  
gtgcaacctg gcaaaccct cagaggacag agctaagggtg gacagggatt acctagattg  
1320  
gatactactt gggctatcac agagcattga ccattggctt ccctcatctg aggcgtggga  
1380  
gagcagactg gatagatgag aattgtttta aaacaattgt gaacagaaac tgaagatggt  
1440  
acagttctac atctgcacct gccctttttt cataccacaa aagtattttt tgagtactgt  
1500  
actgactttt tgctagtttc tattctggga ccgagttcac agataaatcc attggtttgt  
1560  
atccttgaga aactttgttt ttgtggaagt aagaaagtta tctactagat tatttcctct  
1620

aataaaatct tttaaaatag tctactggaa tctctttcac ttaatgttcc ctgtgtaact  
1680  
tcatgtaaca ttttaggtat acttgtcatt gttctgcctt taagtgaagt agtattttga  
1740  
tagttctgag agagtagatg ttttgagcta ctctacagta attatattat gacaatttcc  
1800  
gtaactgttt tgcttcattc tgcatttcaa ggcaaataatc attgtaagct tgtctttcat  
1860  
tcttcattga tttcattgaa caaatggtag gtacc  
1895

<210> 4390

<211> 335

<212> PRT

<213> Homo sapiens

<400> 4390

Arg	Val	Ala	Arg	Gly	Val	Ala	Ala	Glu	Gly	Arg	Ala	Val	Tyr	Val	Val
1				5					10					15	
Asp	Asp	Ala	Ala	Val	Leu	Gly	Ala	Glu	Asp	Pro	Ala	Val	Tyr	Gly	Asp
		20						25					30		
Ser	Ala	Arg	Glu	Lys	Ala	Leu	Arg	Gly	Ala	Leu	Arg	Ala	Ser	Val	Glu
		35					40					45			
Arg	Arg	Leu	Ser	Arg	His	Asp	Val	Val	Ile	Leu	Asp	Ser	Leu	Asn	Tyr
		50				55					60				
Ile	Lys	Gly	Phe	Arg	Tyr	Glu	Leu	Tyr	Cys	Leu	Ala	Arg	Ala	Ala	Arg
65					70					75				80	
Thr	Pro	Leu	Cys	Leu	Val	Tyr	Cys	Val	Arg	Pro	Gly	Gly	Pro	Ile	Ala
				85					90					95	
Gly	Pro	Gln	Val	Ala	Gly	Ala	Asn	Glu	Asn	Pro	Gly	Arg	Asn	Val	Ser
		100						105					110		
Val	Ser	Trp	Arg	Pro	Arg	Ala	Glu	Glu	Asp	Gly	Arg	Ala	Gln	Ala	Ala
		115					120					125			
Gly	Ser	Ser	Val	Leu	Arg	Glu	Leu	His	Thr	Ala	Asp	Ser	Val	Val	Asn
		130				135					140				
Gly	Ser	Ala	Gln	Ala	Asp	Val	Pro	Lys	Glu	Leu	Glu	Arg	Glu	Glu	Ser
145					150					155				160	
Gly	Ala	Ala	Glu	Ser	Pro	Ala	Leu	Val	Thr	Pro	Asp	Ser	Glu	Lys	Ser
				165					170					175	
Ala	Lys	His	Gly	Ser	Gly	Ala	Phe	Tyr	Ser	Pro	Glu	Leu	Leu	Glu	Ala
			180					185					190		
Leu	Thr	Leu	Arg	Phe	Glu	Ala	Pro	Asp	Ser	Arg	Asn	Arg	Trp	Asp	Arg
		195					200					205			
Pro	Leu	Phe	Thr	Leu	Val	Gly	Ile	Glu	Glu	Pro	Leu	Pro	Pro	Ala	Gly
		210				215					220				
Ile	Arg	Ser	Ala	Leu	Phe	Glu	Asn	Arg	Ala	Pro	Pro	Pro	His	Gln	Ser
225					230					235				240	
Thr	Gln	Ser	Gln	Pro	Leu	Ala	Ser	Gly	Ser	Phe	Leu	His	Gln	Leu	Asp
				245					250					255	
Gln	Val	Thr	Ser	Gln	Val	Leu	Ala	Gly	Leu	Met	Glu	Ala	Gln	Lys	Ser
			260					265					270		
Ala	Val	Pro	Gly	Asp	Leu	Leu	Thr	Leu	Pro	Gly	Thr	Thr	Glu	His	Leu
		275					280						285		
Arg	Phe	Thr	Arg	Pro	Leu	Thr	Met	Ala	Glu	Leu	Ser	Arg	Leu	Arg	Arg

290	295	300
Gln Phe Ile Ser Tyr Thr Lys Met His Pro Asn Asn Glu Asn Leu Pro		
305	310	315
Gln Leu Ala Asn Met Phe Leu Gln Tyr Leu Ser Gln Ser Leu His		320
325	330	335

&lt;210&gt; 4391

&lt;211&gt; 988

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4391

```

nagcccttct cctggcccca tggagcctcc ccacgagccc aggggcatcc gagcatgggc
60
ggcccaatgc agaggggtgac gcctcctcgt ggcattggcca gcgtggggcc ccagagctat
120
ggaggtggca tgcgaccccc acccaactcc ctgcgcggcc caggcctgcc tgccatgaac
180
atgggcccag gatttcgtgg ccgctggggc agccccagtg gaaactcgat cccctactcc
240
tcctcatccc ccggcagcta caccggaccc ccaggaggag gtggggcccc tggaacaccc
300
atcatgccta gccctggaga ttccaccaac tccagcgaaa acatgtacac tatcatgaac
360
cccatcgggc agggcgccgg cagggttaat ttcccgctcg gccctggccc ggagggcccc
420
atggccgcca tgagcgcgat ggagcctcac cacgtgaacg gatccctggg ctcgggcgac
480
atggacgggt tgccgaagag ttccccggc gccgtggccg gcctgagcaa cgccccgggc
540
accccgcggg acgacggcga gatggcgggc gccgggacct tcctgcaccc gttcccagc
600
gaaagctact cgccagggat gaccatgagc gtgtgatggg gcggcagccc cgggcctctc
660
tgcgggccta ggcttctgcc cagcgccct gctcagggcg aggggctgag gtcacacctc
720
gggcacctgg actcctggcc aatcaaggct tgcccagctg ggaggcccca cacgaaagac
780
tcttaccatt ttattaaaaa cgcaaggacc tcagagacgt tcttttctgt atggaccctt
840
cctgccattt gtattttgtc ccagagagaa aggtctcttg gggggccct ctcccagga
900
cgtcaggggg tggggcccat aaataaatgg aagctggttt tggtttttgg taaaaaaaaa
960
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
988

```

&lt;210&gt; 4392

&lt;211&gt; 211

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4392

Xaa Pro Phe Ser Trp Pro His Gly Ala Ser Pro Arg Ala Gln Gly His

```

      1           5           10           15
Pro Ser Met Gly Gly Pro Met Gln Arg Val Thr Pro Pro Arg Gly Met
      20           25           30
Ala Ser Val Gly Pro Gln Ser Tyr Gly Gly Gly Met Arg Pro Pro Pro
      35           40           45
Asn Ser Leu Ala Gly Pro Gly Leu Pro Ala Met Asn Met Gly Pro Gly
      50           55           60
Val Arg Gly Pro Trp Ala Ser Pro Ser Gly Asn Ser Ile Pro Tyr Ser
      65           70           75           80
Ser Ser Ser Pro Gly Ser Tyr Thr Gly Pro Pro Gly Gly Gly Gly Pro
      85           90           95
Pro Gly Thr Pro Ile Met Pro Ser Pro Gly Asp Ser Thr Asn Ser Ser
      100          105          110
Glu Asn Met Tyr Thr Ile Met Asn Pro Ile Gly Gln Gly Ala Gly Arg
      115          120          125
Ala Asn Phe Pro Leu Gly Pro Gly Pro Glu Gly Pro Met Ala Ala Met
      130          135          140
Ser Ala Met Glu Pro His His Val Asn Gly Ser Leu Gly Ser Gly Asp
      145          150          155          160
Met Asp Gly Leu Pro Lys Ser Ser Pro Gly Ala Val Ala Gly Leu Ser
      165          170          175
Asn Ala Pro Gly Thr Pro Arg Asp Asp Gly Glu Met Ala Ala Ala Gly
      180          185          190
Thr Phe Leu His Pro Phe Pro Ser Glu Ser Tyr Ser Pro Gly Met Thr
      195          200          205
Met Ser Val
      210

```

&lt;210&gt; 4393

&lt;211&gt; 2171

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4393

```

gaggccaccc gccccggggc ctgggctcgc tgtggactcg tcatggcgac cgagcagagg
60
cctttccacc tgggtggtgtt cggcgcgtct ggcttcaccg gccagttcgt gaccgaggag
120
gtggccccggg agcaggtgga cccggagcgg agctcccctg ccctgggcgt ggccggccgc
180
tcccgggaga agctgcagcg ggtgctggag aaggcggccc tgaagctggg aagaccaaca
240
ctgtcatctg aagttggaat catcatctgt gatattgcta atccagcctc gcttgatgaa
300
atggcctaac aggcaacagt tgcctcaat tgcgtaggac catatcggtt ttatggagaa
360
cctgtaataa aagcatgtat tgaaaatgga gccagttgta tcgacatcag tggagaacct
420
cagtttctgg aactaatgca actgaagtat catgagaaag ctgcagacaa aggggtttat
480
atcattggaa gcagcggcct tgactccatt ccagcagatc tgggagtaat atataccaga
540
aataaaatga atggtacttt gactgctgtg gaaagtttcc tgactataca ttcaggacct
600

```

gaggggttga gcattcatga tggtaacctgg aagtcagcaa tttatggttt tggagatcag  
660  
agtaatttga gaaaactaag aaatgtatca aatctgaaac ctgtcccgt cattgggtcca  
720  
aaattgaaga gaaggtggcc aatttcttat tgtcgggaac tcaaaggta ttccattcct  
780  
tttatgggat ctgatgtgtc tgttgtaagg aggactcaac gttacttgta tgaaaattta  
840  
gaggaatcac cagttcagta tgctgcgtat gtaactgtgg gaggcacac ctctgttatt  
900  
aagctgatgt ttgcaggact tttctttttg ttctttgtga ggtttggaat tggaaggcaa  
960  
cttctcataa aattcccatg gttcttctcc ttggctatt tttcaaaaca aggcccaaca  
1020  
caaaaacaga ttgatgtgc ctcatcacg ctgacattct ttgggtcaagg atacagccaa  
1080  
ggcactggta cagataagaa caaaccaaat atcaaaattt gtactcaggt gaaaggacca  
1140  
gaggctggct atgtggctac ccccatagct atggttcagg cagccatgac tcttctaagt  
1200  
gatgcttctc atctgcctaa ggcgggcggg gtcttcacac ctggagcagc tttttccaaa  
1260  
acaaagtga ttgacagact caacaaacac ggtattgagt ttagtggtat tagcagctct  
1320  
gaagtctaaa cactggaaga attaactgaa gtcataacgt gcgtgaatta acagcttctc  
1380  
tatttgatat ttgaaattct tctgtaagcc tgtctgagt tatgtggaaa cgattgtcaa  
1440  
atctaaaata tctatatatt aaaaagtagg aaattgtcct agcttaccct aaatttcaaa  
1500  
tctgagttga ttttgtgatt ttattgctta taacagagaa ctcatatttg acatattttt  
1560  
ttcattgatg tgttcttggg agattttcac gaatgagctg gcaggtctaa tgggggaggc  
1620  
ggcgtcccag tctgtgttgc agcagcattc tcatcggggg tgcgcacacc atcgttactg  
1680  
tcgggcagta actgccgctt gccttgccgc agtaggaggg aaatctcacc ttccttccac  
1740  
atactgtctt gagcctttgc taaattaaac tgcacttttt gctgtttttg cctagttttt  
1800  
cgccaatcta cactgatttt ggactgttac ctaagttgaa aaataaaagg ttgtcaatcg  
1860  
aatggtggtt taatgttttg acctgccgat gtatttgtat agtggtagaa acatgctgct  
1920  
taagtggcct aacctgtttc ttgccaataa gtaggcttat cattttatct ttacgtaatt  
1980  
ctatatctgt gactaggttt ttaaggatac agcttataag ttgctatcaa ttttactac  
2040  
ctaagcagaa tttttctcta atttactttt tgtattttta ctaggtttta catggaagcc  
2100  
ctaaaataag gcaaaagact ttttcttttg taataagcat ataataaaca cgtatataca  
2160  
tagcaaattg a  
2171

<210> 4394  
 <211> 428  
 <212> PRT  
 <213> Homo sapiens

<400> 4394

```

Met Ala Thr Glu Gln Arg Pro Phe His Leu Val Val Phe Gly Ala Ser
 1              5              10              15
Gly Phe Thr Gly Gln Phe Val Thr Glu Glu Val Ala Arg Glu Gln Val
      20              25              30
Asp Pro Glu Arg Ser Ser Pro Ala Leu Gly Val Ala Gly Arg Ser Arg
      35              40              45
Glu Lys Leu Gln Arg Val Leu Glu Lys Ala Ala Leu Lys Leu Gly Arg
      50              55              60
Pro Thr Leu Ser Ser Glu Val Gly Ile Ile Ile Cys Asp Ile Ala Asn
65              70              75              80
Pro Ala Ser Leu Asp Glu Met Ala Lys Gln Ala Thr Val Val Leu Asn
      85              90              95
Cys Val Gly Pro Tyr Arg Phe Tyr Gly Glu Pro Val Ile Lys Ala Cys
      100             105             110
Ile Glu Asn Gly Ala Ser Cys Ile Asp Ile Ser Gly Glu Pro Gln Phe
      115             120             125
Leu Glu Leu Met Gln Leu Lys Tyr His Glu Lys Ala Ala Asp Lys Gly
      130             135             140
Val Tyr Ile Ile Gly Ser Gly Phe Asp Ser Ile Pro Ala Asp Leu
145             150             155             160
Gly Val Ile Tyr Thr Arg Asn Lys Met Asn Gly Thr Leu Thr Ala Val
      165             170             175
Glu Ser Phe Leu Thr Ile His Ser Gly Pro Glu Gly Leu Ser Ile His
      180             185             190
Asp Gly Thr Trp Lys Ser Ala Ile Tyr Gly Phe Gly Asp Gln Ser Asn
      195             200             205
Leu Arg Lys Leu Arg Asn Val Ser Asn Leu Lys Pro Val Pro Leu Ile
      210             215             220
Gly Pro Lys Leu Lys Arg Arg Trp Pro Ile Ser Tyr Cys Arg Glu Leu
225             230             235             240
Lys Gly Tyr Ser Ile Pro Phe Met Gly Ser Asp Val Ser Val Val Arg
      245             250             255
Arg Thr Gln Arg Tyr Leu Tyr Glu Asn Leu Glu Glu Ser Pro Val Gln
      260             265             270
Tyr Ala Ala Tyr Val Thr Val Gly Gly Ile Thr Ser Val Ile Lys Leu
      275             280             285
Met Phe Ala Gly Leu Phe Phe Leu Phe Phe Val Arg Phe Gly Ile Gly
      290             295             300
Arg Gln Leu Leu Ile Lys Phe Pro Trp Phe Phe Ser Phe Gly Tyr Phe
305             310             315             320
Ser Lys Gln Gly Pro Thr Gln Lys Gln Ile Asp Ala Ala Ser Phe Thr
      325             330             335
Leu Thr Phe Phe Gly Gln Gly Tyr Ser Gln Gly Thr Gly Thr Asp Lys
      340             345             350
Asn Lys Pro Asn Ile Lys Ile Cys Thr Gln Val Lys Gly Pro Glu Ala
      355             360             365
Gly Tyr Val Ala Thr Pro Ile Ala Met Val Gln Ala Ala Met Thr Leu

```

370	375	380
Leu Ser Asp Ala Ser His Leu Pro Lys Ala Gly Gly Val Phe Thr Pro		
385	390	395
Gly Ala Ala Phe Ser Lys Thr Lys Leu Ile Asp Arg Leu Asn Lys His		400
	405	410
Gly Ile Glu Phe Ser Val Ile Ser Ser Ser Glu Val		415
	420	425

&lt;210&gt; 4395

&lt;211&gt; 1893

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4395

```

natgtgtccc caattcttga aggaaaaaga gagctgtggg cttccagggc gactcccttc
60
acatcctgtg tatctgtctc tccctgcccc atgccaaggc ccaggaggtg tgaatggctc
120
ccttctcttc tgcaggcgct gaggatcacg catcctgtga ctctccctg tccccgcca
180
ccctctgaac cactggccac catggctact tcaaagttgc ccgtggtgcc tggggaggag
240
gaaaacacca tccttatggc caaggaaagg ctggaggccc tgcgcacagc ctttgagtcg
300
ggtgacctcc ccaggccgc ctctcacctc caggagctgc tggcctccac ggaaagcatc
360
cgcttgagg tgggcgtcac gggcgagtcg ggcgcgggca agtcctccct catcaatgcc
420
ctgcgtggcc tggaggccga ggaccctggc gcggtctctca cgggcgtcat ggagaccacg
480
atgcaaccgt cgccctatcc acaccacag ttccctgacg tgaccctctg ggacctgcca
540
ggagccggct ctccaggctg cccggctgac aagtacctaa agcaggtaga cttcagccgc
600
tatgacttct tctgtctggt ctccccccgc cgctgcgggg ccgtcgagac ccgctggcc
660
gctgagatcc tgtgccaggg caagaagttc tactttgtgc gcaccaaggt ggacgaggac
720
ctggcgcca cgcgaccca gcggcgctcg ggcttcagag aggcgctgt cctgcaggag
780
atccgagacc actgtgccga gcggctgcgg gaggccggcg tggctgacct tcgcatcttc
840
ctggtgtcca acctctcgcc ggcccgtac gactttccca cgctggtgtc cacctgggag
900
cacgacctgc cctcccaccg gcgccacgct ggctgtgtgt cgctccccga catctcgctg
960
gaggccttgc agaagaagaa ggccatgctt caagagcaag tcctcaagac cgccctggtg
1020
ttggcgctca tccaggccct gccggctcca gggctggcgg ccgcctacga tgatgcgttg
1080
ctcatccact cactgcgtgg ctaccaccgc agctttggtc tggacgacga ctcgctggcc
1140
aagctggccg agcagggtggg caaacaggca ggtgacctgc gctcggtcat ccgctcccca
1200

```

ctggccaacg aggtctcgcc tgagactgtc ctgcggctct attcccagtc gtccgacggc  
 1260  
 gccatgcggg tggcccgccg ctttgagagg ggcattccctg tgtttgggac gctgggtggc  
 1320  
 ggccggcatca gctttggcgc tgtctacacc atgtccagg gctgcctcaa cgagatggct  
 1380  
 gaggacgccc agcgtgtccg catcaaggcc ctggaggatg acgagccgca gccggaggtc  
 1440  
 agcttggaag tggccagtga caatggcgtg gaaaagggg gctccgggga gggaggtggg  
 1500  
 gaggaagccc cactctcaac ctgcaggaag ctccgcctcc ttcttaagta cattctggac  
 1560  
 agctggaaga aacacgactc agaagagaaa taaagagtgc agccccgccc cctgcctca  
 1620  
 cccacaaact aagtcttaac aaaatccaaa ttaccaacaa aaaaggccga tgtggtgaat  
 1680  
 gtgagggtctg cagttgcctg ggggggtgggt gtggaggag cctgtgtccc tggcaggcag  
 1740  
 gggagccggc gtcctgggca gggcaaagga gggggcactg gggaggggag gaggaggca  
 1800  
 ggtggggcca gggccaacag ggtgtagtg aaaggggaca ggagtgcct ggagaggag  
 1860  
 gttggagaca tggatggtgg gccaggggt ccc  
 1893

&lt;210&gt; 4396

&lt;211&gt; 463

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4396

Met	Ala	Thr	Ser	Lys	Leu	Pro	Val	Val	Pro	Gly	Glu	Glu	Glu	Asn	Thr
1				5					10					15	
Ile	Leu	Met	Ala	Lys	Glu	Arg	Leu	Glu	Ala	Leu	Arg	Thr	Ala	Phe	Glu
			20					25					30		
Ser	Gly	Asp	Leu	Pro	Gln	Ala	Ala	Ser	His	Leu	Gln	Glu	Leu	Leu	Ala
		35					40					45			
Ser	Thr	Glu	Ser	Ile	Arg	Leu	Glu	Val	Gly	Val	Thr	Gly	Glu	Ser	Gly
		50				55					60				
Ala	Gly	Lys	Ser	Ser	Leu	Ile	Asn	Ala	Leu	Arg	Gly	Leu	Glu	Ala	Glu
65					70				75					80	
Asp	Pro	Gly	Ala	Ala	Leu	Thr	Gly	Val	Met	Glu	Thr	Thr	Met	Gln	Pro
				85					90					95	
Ser	Pro	Tyr	Pro	His	Pro	Gln	Phe	Pro	Asp	Val	Thr	Leu	Trp	Asp	Leu
			100					105						110	
Pro	Gly	Ala	Gly	Ser	Pro	Gly	Cys	Pro	Ala	Asp	Lys	Tyr	Leu	Lys	Gln
		115					120					125			
Val	Asp	Phe	Ser	Arg	Tyr	Asp	Phe	Phe	Leu	Leu	Val	Ser	Pro	Arg	Arg
		130				135					140				
Cys	Gly	Ala	Val	Glu	Thr	Arg	Leu	Ala	Ala	Glu	Ile	Leu	Cys	Gln	Gly
145					150				155					160	
Lys	Lys	Phe	Tyr	Phe	Val	Arg	Thr	Lys	Val	Asp	Glu	Asp	Leu	Ala	Ala
				165					170					175	
Thr	Arg	Thr	Gln	Arg	Pro	Ser	Gly	Phe	Arg	Glu	Ala	Ala	Val	Leu	Gln



```
<210> 4397
<211> 2543
<212> DNA
<213> Homo sapiens
```

3585

aactgtcgta gtgataccgt aatggagaaa cggtcattta aggtgcctct gggaaagggg  
420  
agacgctgtg tcgttttagc agatggattc tatgagtggc agcgatgtca gggaacaaac  
480  
cagaggcagc catacttcat ctattttcct caaatcaaga cagagaagtc aggtagcatt  
540  
ggtgctgcag atagtcctga gaactgggag aaagtctggg acaactggag gctgctgaca  
600  
atggccggga tctttgactg ctgggagccc ccagagggag gagatgtcct gtattcctat  
660  
accatcatca cagtggattc ctgcaaaggc ttgagtgaca tccaccacag gatgcctgcc  
720  
atattagatg gagaggaggc agtttctaaa tggcttgact ttggtgaagt ctcaactcag  
780  
gaagctctga aattaatcca cccaacagag aacatcacct tccatgcagt ctcttctgtg  
840  
gtgaacaact cgcgaaacaa cactcctgag tgtctggctc ctgtcgactt ggtgggtcaaa  
900  
aaggagctca gggcaagtgg cagtagccag aggatgttgc agtggttggc cacaaagtca  
960  
cccaaaaagg aagactcaaa aacacctcaa aaggaagagt cagatgttcc ccagtgggcc  
1020  
agtcagttcc tgcagaagag tccactcccc accaagagag gcactgcagg actcctagag  
1080  
caatggctga agcgggagaa ggaggaggaa cctgtggcca agcgtcctta cagccagtga  
1140  
cacaggactt tcagagacca aggccagggt ctgctgcact gctgttctga taataggttc  
1200  
ttaacattgt atgtatatgt gtttgctttg ggaggagggtg gcactgtgtt agttgacagt  
1260  
tgtgggctca tgtagtcttt tttgccatga gtaggagccc ctagtggggc tgggtggacag  
1320  
ctttggaaga ggtgtcctgc tgctgttacc agccatgtgg gccccatagg ggcactgcgc  
1380  
ctgctgccct ttcctggcag ggctggtgga gtcttccctc aaagcatgcc ttaccagct  
1440  
gggaagtctc tgcctgatc tggtagtctc tgtagtaagc tgttttctgc tcagccactg  
1500  
ggctctttca cttttttagt tcttaaaaat ttatttttaa gttctaaaat aaaataaaaa  
1560  
taagttctta aaatttatTT ttttcctgaa taaattgtat ttggtaaact tctgectaca  
1620  
ttttggaaag tgatgctggt ggggaaagtt ctagatctta cttggtttct tctagaatca  
1680  
gtcttcagga atggattttg tcacaaatgg ggcattgggg ctttctgagg aaataactac  
1740  
aagtcttggg ggtgggctcc ttattatgtt tctttttctt tcattcttga tacttggaag  
1800  
tcgtctgaat ccttttagctt caaaccagcc tgagtgtgag tgcttgccgt agcagaaact  
1860  
atccttacca cagggtgggaa ggaaaggacc agtttctagc agtgtcgggc cactcctctt  
1920  
tcgaacatcc ctaaggaggc cattcacaaa agctgtccca agcagctgga agaaaacagc  
1980

ttccgagatg accaggagga ctgggcggcg ccgagcccag aacgctcctg gcgcagcacc  
 2040  
 gttggcggtg gccgattgct gctggtgggg ggcgggggtg caggccccag tctctatgca  
 2100  
 aatcagggat cagaagatcg gaatttccac caatcagcgg gaagcctcgg ccctgtaact  
 2160  
 gctaattggga gacagcagcg ccacgccaca ggcttttccc ctggtttcgg gaggggtggg  
 2220  
 gagccaggtg gggtcccgcc ccagaccctt tcccgaggtc cgccctctcc gccttttctc  
 2280  
 taaattcctc ttttgagtgc cctcccttcc gggtgagagg cgggggttgg cccgtagttg  
 2340  
 tacactcagt caccctgcac tgtggaggcg ggggcctccc ttgtggactg atttgcgtagg  
 2400  
 gatttggttg ttttattaag agatttaaaa aattcagatg acttactagt atgactgttt  
 2460  
 tgtcatattt gcttccaggt taataaatga caaaaatgaa aaaaaaaaaa aaaaaaaaaa  
 2520  
 aaaaaaaaaa aaaaaaaaaa aaa  
 2543

<210> 4398

<211> 354

<212> PRT

<213> Homo sapiens

<400> 4398

Met	Cys	Gly	Arg	Thr	Ser	Cys	His	Leu	Pro	Arg	Asp	Val	Leu	Thr	Arg
1				5					10					15	
Ala	Cys	Ala	Tyr	Gln	Asp	Arg	Arg	Gly	Gln	Gln	Arg	Leu	Pro	Glu	Trp
			20					25					30		
Arg	Asp	Pro	Asp	Lys	Tyr	Cys	Pro	Ser	Tyr	Asn	Lys	Ser	Pro	Gln	Ser
		35					40					45			
Asn	Ser	Pro	Val	Leu	Leu	Ser	Arg	Leu	His	Phe	Glu	Lys	Asp	Ala	Asp
		50				55					60				
Ser	Ser	Glu	Arg	Ile	Ile	Ala	Pro	Met	Arg	Trp	Gly	Leu	Val	Pro	Ser
65					70					75				80	
Trp	Phe	Lys	Glu	Ser	Asp	Pro	Ser	Lys	Leu	Gln	Phe	Asn	Thr	Thr	Asn
				85					90					95	
Cys	Arg	Ser	Asp	Thr	Val	Met	Glu	Lys	Arg	Ser	Phe	Lys	Val	Pro	Leu
			100					105					110		
Gly	Lys	Gly	Arg	Arg	Cys	Val	Val	Leu	Ala	Asp	Gly	Phe	Tyr	Glu	Trp
		115					120					125			
Gln	Arg	Cys	Gln	Gly	Thr	Asn	Gln	Arg	Gln	Pro	Tyr	Phe	Ile	Tyr	Phe
		130				135					140				
Pro	Gln	Ile	Lys	Thr	Glu	Lys	Ser	Gly	Ser	Ile	Gly	Ala	Ala	Asp	Ser
145					150					155				160	
Pro	Glu	Asn	Trp	Glu	Lys	Val	Trp	Asp	Asn	Trp	Arg	Leu	Leu	Thr	Met
			165					170						175	
Ala	Gly	Ile	Phe	Asp	Cys	Trp	Glu	Pro	Pro	Glu	Gly	Gly	Asp	Val	Leu
			180					185					190		
Tyr	Ser	Tyr	Thr	Ile	Ile	Thr	Val	Asp	Ser	Cys	Lys	Gly	Leu	Ser	Asp
		195					200					205			
Ile	His	His	Arg	Met	Pro	Ala	Ile	Leu	Asp	Gly	Glu	Glu	Ala	Val	Ser

210		215		220	
Lys Trp Leu Asp Phe Gly Glu Val Ser Thr Gln Glu Ala Leu Lys Leu					
225		230		235	240
Ile His Pro Thr Glu Asn Ile Thr Phe His Ala Val Ser Ser Val Val					
	245		250		255
Asn Asn Ser Arg Asn Asn Thr Pro Glu Cys Leu Ala Pro Val Asp Leu					
	260		265		270
Val Val Lys Lys Glu Leu Arg Ala Ser Gly Ser Ser Gln Arg Met Leu					
	275		280		285
Gln Trp Leu Ala Thr Lys Ser Pro Lys Lys Glu Asp Ser Lys Thr Pro					
	290		295		300
Gln Lys Glu Glu Ser Asp Val Pro Gln Trp Ser Ser Gln Phe Leu Gln					
305		310		315	320
Lys Ser Pro Leu Pro Thr Lys Arg Gly Thr Ala Gly Leu Leu Glu Gln					
	325		330		335
Trp Leu Lys Arg Glu Lys Glu Glu Glu Pro Val Ala Lys Arg Pro Tyr					
	340		345		350
Ser Gln					

&lt;210&gt; 4399

&lt;211&gt; 723

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4399

gtgcaccgca tcaagcgcga gtgcgagcgc gacatccgca ggctgatgga tgagatcaaa  
60  
gggaaagacc gtgtgattct ggccttgag aaggaacttg gcgtgcaggc tgggcagacc  
120  
cagaagctgc ttctgcagaa agaggctttg gatgagcagc tgggtcaggt caaggaggcc  
180  
gagcggcacc acagtagtcc aaagagagag ctcccgcccg ggatcgggga catggtggag  
240  
ctcatgggcy tccaggatca acatatggac gagcgagatg tgaggcgatt tcaactaaaa  
300  
attgctgaac tgaattcagt gatacgaag ctggaagaca gaaatacgt gttggcagat  
360  
gagaggaatg aactgctgaa acgctcacga gagaccgagg ttcagctgaa gcccttggtg  
420  
gagaagaaca agcggatgaa caagaagaat gaggatctgt tgcagagtat ccagaggatg  
480  
gaggagaaaa tcaagaacct cacgcgggaa aacgtggaaa tgaaagaaaa gctgtcagcg  
540  
caggcgtctc tgaagcggca tacctccttg aatgacctca gcctgacgag ggatgagcag  
600  
gagatcgagt tcctgaggct gcagggtctg gagcagcagc acgtcattga cgacctctca  
660  
ctggagagag aacggctgtt gcgctccaaa aggcacgag ggaaaagtct gaaaccgccc  
720  
aag  
723

&lt;210&gt; 4400

<211> 241  
 <212> PRT  
 <213> Homo sapiens

<400> 4400

```

Val His Arg Ile Lys Arg Glu Cys Glu Arg Asp Ile Arg Arg Leu Met
 1           5           10           15
Asp Glu Ile Lys Gly Lys Asp Arg Val Ile Leu Ala Leu Glu Lys Glu
      20           25           30
Leu Gly Val Gln Ala Gly Gln Thr Gln Lys Leu Leu Leu Gln Lys Glu
      35           40           45
Ala Leu Asp Glu Gln Leu Val Gln Val Lys Glu Ala Glu Arg His His
      50           55           60
Ser Ser Pro Lys Arg Glu Leu Pro Pro Gly Ile Gly Asp Met Val Glu
65           70           75           80
Leu Met Gly Val Gln Asp Gln His Met Asp Glu Arg Asp Val Arg Arg
      85           90           95
Phe Gln Leu Lys Ile Ala Glu Leu Asn Ser Val Ile Arg Lys Leu Glu
      100          105          110
Asp Arg Asn Thr Leu Leu Ala Asp Glu Arg Asn Glu Leu Leu Lys Arg
      115          120          125
Ser Arg Glu Thr Glu Val Gln Leu Lys Pro Leu Val Glu Lys Asn Lys
      130          135          140
Arg Met Asn Lys Lys Asn Glu Asp Leu Leu Gln Ser Ile Gln Arg Met
145          150          155          160
Glu Glu Lys Ile Lys Asn Leu Thr Arg Glu Asn Val Glu Met Lys Glu
      165          170          175
Lys Leu Ser Ala Gln Ala Ser Leu Lys Arg His Thr Ser Leu Asn Asp
      180          185          190
Leu Ser Leu Thr Arg Asp Glu Gln Glu Ile Glu Phe Leu Arg Leu Gln
      195          200          205
Val Leu Glu Gln Gln His Val Ile Asp Asp Leu Ser Leu Glu Arg Glu
      210          215          220
Arg Leu Leu Arg Ser Lys Arg His Arg Gly Lys Ser Leu Lys Pro Pro
225          230          235          240
Lys

```

<210> 4401  
 <211> 1131  
 <212> DNA  
 <213> Homo sapiens

<400> 4401

```

nncccggtga aacctctcta gccattctc aataaagatt cacatagcta tagcagcact
60
atgcccatga tgatgtatca ttttatactt actggaatcc aagccaggct ggtttctaata
120
agaaaggtga tccaaggaat cacatgtgag aaaaacagtg ctctagcaaa gggatcctcg
180
aatcaaaggc atcgagaata tttttaataa ctaatgcctt tttgctatct ccggggaaag
240
gctggattgt gctaccgacg ctcaatatcc atgcaccccg gatctggaag actttgccgg
300

```

cctgcagatt ggccttaaga gaaggacgga gccacatact gctgacggcc cagaactggc  
 360  
 agagagaagg ttgccatggc tgctgttgac agtttctacc tctgtacag ggaaatcgcc  
 420  
 aggtcttgca attgctatat ggaagctcta gctttgggtg gagcctggta tacggccaga  
 480  
 aaaagcatca ctgtcatctg tgacttttac agcctgatca ggctgcattt tatccccgc  
 540  
 ctggggagca gaggagactt gatcaagcag tatggaagat gggccgttgt cagcggtgca  
 600  
 acagatggga ttggaaaagc ctacgctgaa gagttagcaa gccgaggtct caatataatc  
 660  
 ctgattagtc ggaacgagga gaagttgcag gttgttgcta aagacatagc cgacacgtac  
 720  
 aaagtggaaa ctgatattat agttgcgac ttcagcagcg gtcgtgagat ctaccttcca  
 780  
 attcgagaag ccctgaagga caaagacgtt ggcattcttg taaataacgt ggggtgtgtt  
 840  
 tatccctacc cgcagtattt cactcagctg tccgaggaca agctctggga catcataaat  
 900  
 gtgaacattg ccgccgctag tttgatggtc catgttgtgt taccgggaat ggtggagaga  
 960  
 aagaaaggtg ccacgtcac gatctcttct gggctcctgc tgcaaccac tcctcagctg  
 1020  
 gctgcatttt ctgcttctaa ggcttattta gaccacttca gcagagcctt gcaatatgaa  
 1080  
 tatgcctcta aaggaatctt tgtacagagt ctaatncctt tctatgtagc c  
 1131

&lt;210&gt; 4402

&lt;211&gt; 252

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4402

Met Ala Ala Val Asp Ser Phe Tyr Leu Leu Tyr Arg Glu Ile Ala Arg  
 1 5 10 15  
 Ser Cys Asn Cys Tyr Met Glu Ala Leu Ala Leu Val Gly Ala Trp Tyr  
 20 25 30  
 Thr Ala Arg Lys Ser Ile Thr Val Ile Cys Asp Phe Tyr Ser Leu Ile  
 35 40 45  
 Arg Leu His Phe Ile Pro Arg Leu Gly Ser Arg Ala Asp Leu Ile Lys  
 50 55 60  
 Gln Tyr Gly Arg Trp Ala Val Val Ser Gly Ala Thr Asp Gly Ile Gly  
 65 70 75 80  
 Lys Ala Tyr Ala Glu Leu Ala Ser Arg Gly Leu Asn Ile Ile Leu  
 85 90 95  
 Ile Ser Arg Asn Glu Glu Lys Leu Gln Val Val Ala Lys Asp Ile Ala  
 100 105 110  
 Asp Thr Tyr Lys Val Glu Thr Asp Ile Ile Val Ala Asp Phe Ser Ser  
 115 120 125  
 Gly Arg Glu Ile Tyr Leu Pro Ile Arg Glu Ala Leu Lys Asp Lys Asp  
 130 135 140  
 Val Gly Ile Leu Val Asn Asn Val Gly Val Phe Tyr Pro Tyr Pro Gln

```

<400> 4403
nggatccaag ccatattgat tgggctgcat tggcccaagc ttggattgcc cacaagagaa
60
gcttcaggac agcaaagcat ggtagaacaa ccaccaggaa tgatgccaaa tggacaagat
120
atgtctacaa tggaatctgg tccaaacaat catgggaatt tccaagggga ttcaaacttc
180
aacagaatgt ggcaaccaga atggggaatg catcagcaac cccacacccc ccctccagat
240
cagccatgga tgccaccaac accaggccca atggacattg ttctctcttc tgaagacagc
300
aacagtcagg acagtgggga atttgcccct gacaacaggc atatatttaa ccagaacaat
360
cacaactttg gtggaccacc cgataatttt gcagtggggc cagtgaacca gtttgactat
420
cagcatgggg ctgcttttgg tccaccgcaa ggtggatttc atctctctta ttggcaacca
480
ggacctccag gacctccagc acctccccag aatcgaagag aaaggccatc atcattcagg
540
gatcgtcagc gttcacctat tgcacttcct gtgaagcagg agcctccaca aattgacgca
600
gtaaaacgca ggactcttcc cgcttgatt cgcgagggtc ttgaaaaaat ggaacgtgaa
660
aagcagaaga aattggagaa agaaagaatg gaacaacaac gttcacaatt gtccaaaaaa
720
aaaaaaaaagg ccacagaaga tgctgaagga ggggatggcc ctcgtttacc tcagagaagt
780
aaatttgata gtgatgagga agaagaagac actgaaaatg ttgaggctgc aagtagtggg
840
aaagtcacca gaagtccatc cccagttcct caagaagagc acagtgacct tgagatgact
900
gaagaggaga aagagtatca aatgatgttg ctgacaaaaa tgcttctaac agaaattctg
960
ctggatgtca cagatgaaga aatttattac gtagccaaag atgcacaccg caaagcaacg
1020

```

aaagctcctg caaaacagct ggcacagtcc agtgcaactgg cttccctcac tggactcggg  
1080  
ggactgggtg gttatggatc aggagacagt gaagatgaga ggagtgcagc aggatctgag  
1140  
tcattctgaca ctgatgatga agaattacgg catcgaatcc ggcaaaaaca ggaagctttt  
1200  
tggagaaaag aaaaagaaca gcagctatta catgataaac agatggaaga agaaaagcag  
1260  
caaacagaaa gggttacaaa agagatgaat gaatttatcc ataaagagca aaatagttta  
1320  
tcactactag aagcaagaga agcagacggg gatgtgggta atgaaaagaa gagaactcca  
1380  
aatgaaacca catcagtttt agaaccaaaa aaagagcata aagaaaaaga aaaacaaggga  
1440  
aggagtaggt cgggaagtgc tagtagtggt agttccagta gcaatagcag aactagtagt  
1500  
actagtagta ctgtctctag ctcttcatac agttctagct caggtagtag tcgtacttct  
1560  
tctcgggtctt cttctcctaa aaggaaaaag agacacagta ggagttagatc tccaacaatc  
1620  
aaagctagac gtagcaggag tagaagctat tctcgagaa ttaaaataga gagcaatagg  
1680  
gctagggttaa agattagaga tagaaggaga tctaatagaa atagcattga aagagaaaga  
1740  
cgacgaaatc ggagtccttc ccgagagaga cgtagaagta gaagtcgctc aagggataga  
1800  
cgaaccaatc gtgccagtcg cagtaggagt cgagataggc gtaaaattga tgatcaacgt  
1860  
ggaaatctta gtgggaacag tcataagcat aaaggtagg ctaaagaaca agagaggaaa  
1920  
aaggagagga gtcgaagtat agataaagat agggaaaaaga aagacaaaga aagggaacgt  
1980  
gaacaggata aaagaaaaga gaaacaaaaa aggggaagaa aagattttta gttcagtagt  
2040  
caggatgata gattaaaaag gaaacgagaa agtgaaagaa cattttctag gagtggttct  
2100  
atatctgtta aatcataag acatgattct agacaggata gtaagaaaag tactaccaaa  
2160  
gatagtaaaa aacattcagg ctctgattct agtggaagga gcagttctga gtctccagga  
2220  
agtagcaaaag aaaagaaggc taagaagcct aaacatagtc gatcgcgatc cgtggagaaa  
2280  
tctcaaaggc ctggttaagaa ggcaagccgc aaacacaagt ctaagtcccg atcaaggtag  
2340  
tatacttttt aaagtatttt gtctgatttt taaaaaaat tgactgaatt tattcaaagt  
2400  
tgaaagtgtc ctttctctct ctctttaata aactcagttt ggtacttgat aaataatcat  
2460  
agtcttaaat gttagaaatc ctatataata ttatttatct aaaattgcag atttttaatt  
2520  
taaaatacat ttttattttt aaattttgtc ttttcccttt tttttcagat caacaacccc  
2580  
tccccgtcgt aaacgctgag gaatgatgtg gcaagaatgc catgatgttc tttaaaaaaa  
2640



ttccatgagt ttttaagggt tgtctcattha tagaggcaca ttgtggctgt gtaggtgaaa  
2700  
ccagaatctt tttttttttt aatctgtaaa taggtgtact ttttccaatg ctgctccaag  
2760  
ttacttaata ggatttcttt gtattacgtt tttttcaaaa aatatagtgc ataataagac  
2820  
tataaacatg ccattctctt tcagctgtaa tgttcttaaa attattcttg aatgtactgt  
2880  
gatgtcaata aagctcttta gttcattttt gttaaactct tgcaccttaa ttttatggtt  
2940  
ttaatctaag gaacgtactt ttataaaaag gcagctggaa ttttgataa caggttttta  
3000  
aggtaacctt tctcacctcc cccaaagaaa atggttttta cttaatagtt tgtcaaagtt  
3060  
tgtaaattgt acccatggac ttttgccaga ttccaacttt aagggtatga aagagggcta  
3120  
gaaatagacc ttactttttt atttggaagt atttgacaac tttctaaaact tttcttcta  
3180  
ttttggggat tttcaagtaa tatattctct gtgtgtataa cgtgtggttc actcctgtaa  
3240  
aatgaaattg ctggaatcaa tcaagccagt gcaccagtag agttatttgt aaggaacgat  
3300  
tgtgtttgac agtaatagtc aagtctggaa ctatatctta cagtcaccca cttctgtttt  
3360  
agaagcattt tgaaacactt tttggggtta tagaaataag actcatgatt atatatattt  
3420  
atztatattt ttaaagtata atatgacctc aaatcaatgg aggaatgctg tattatgcag  
3480  
gtttgtgtca atttcatgac attaaaattg tctgattttg tccgtttctt aaaattatga  
3540  
ttagtgagtg gtctaacagt ttaaggcatt gataacttac aagtagagtg gggctctcaa  
3600  
agcattttta ctcagttgct ttaggggtcca tttttttatg taatcactta ctcagtgata  
3660  
aatgaatctc tgaaaacaaa tgcttttaca ttttaattta aaaagaaaac aggtgcaggg  
3720  
cacagaaaag ttttaaagta tgcttcttca ccagcaatag ttcattttta aaatcatgcc  
3780  
agatttttgc caagatcagt gtttctctca catgaagata gaaatagatt tgtatagtgt  
3840  
gctcttgtag ctctacatag attattatat aattttgagc agttacacat ttatctaaag  
3900  
gaaataaatc aactgtgaat aaatgcatgt ttacaaaaat ggctgtttac agtgcattta  
3960  
gttctgatat ttataaagat gacatttcac agaataactt taaaatagtt tgaaattcta  
4020  
tatagtttag acatcgatca catctggaga caaaataaaa tgtgcaatat tttttatgta  
4080  
ggcgagctaa cacagtgtac ctaattgcag aattatctga ttaatttgta atagataagt  
4140  
tgtataacat tttcatatct taaaatgttt tttagatcaa tcttgaagtg aaatattttt  
4200  
aaaaataaat tctacagaaa aaaaaaaaaa aaaaaaa  
4237

<210> 4404  
 <211> 779  
 <212> PRT  
 <213> Homo sapiens

<400> 4404

```

Xaa Ile Gln Ala Ile Leu Ile Gly Leu His Trp Pro Lys Leu Gly Leu
 1           5           10           15
Pro Thr Arg Glu Ala Ser Gly Gln Gln Ser Met Val Glu Gln Pro Pro
 20           25           30
Gly Met Met Pro Asn Gly Gln Asp Met Ser Thr Met Glu Ser Gly Pro
 35           40           45
Asn Asn His Gly Asn Phe Gln Gly Asp Ser Asn Phe Asn Arg Met Trp
 50           55           60
Gln Pro Glu Trp Gly Met His Gln Gln Pro Pro His Pro Pro Pro Asp
 65           70           75           80
Gln Pro Trp Met Pro Thr Pro Gly Pro Met Asp Ile Val Pro Pro
 85           90           95
Ser Glu Asp Ser Asn Ser Gln Asp Ser Gly Glu Phe Ala Pro Asp Asn
 100          105          110
Arg His Ile Phe Asn Gln Asn Asn His Asn Phe Gly Gly Pro Pro Asp
 115          120          125
Asn Phe Ala Val Gly Pro Val Asn Gln Phe Asp Tyr Gln His Gly Ala
 130          135          140
Ala Phe Gly Pro Pro Gln Gly Gly Phe His Pro Pro Tyr Trp Gln Pro
 145          150          155          160
Gly Pro Pro Gly Pro Ala Pro Pro Gln Asn Arg Arg Glu Arg Pro
 165          170          175
Ser Ser Phe Arg Asp Arg Gln Arg Ser Pro Ile Ala Leu Pro Val Lys
 180          185          190
Gln Glu Pro Pro Gln Ile Asp Ala Val Lys Arg Arg Thr Leu Pro Ala
 195          200          205
Trp Ile Arg Glu Gly Leu Glu Lys Met Glu Arg Glu Lys Gln Lys Lys
 210          215          220
Leu Glu Lys Glu Arg Met Glu Gln Gln Arg Ser Gln Leu Ser Lys Lys
 225          230          235          240
Lys Lys Lys Ala Thr Glu Asp Ala Glu Gly Gly Asp Gly Pro Arg Leu
 245          250          255
Pro Gln Arg Ser Lys Phe Asp Ser Asp Glu Glu Glu Glu Asp Thr Glu
 260          265          270
Asn Val Glu Ala Ala Ser Ser Gly Lys Val Thr Arg Ser Pro Ser Pro
 275          280          285
Val Pro Gln Glu Glu His Ser Asp Pro Glu Met Thr Glu Glu Glu Lys
 290          295          300
Glu Tyr Gln Met Met Leu Leu Thr Lys Met Leu Leu Thr Glu Ile Leu
 305          310          315          320
Leu Asp Val Thr Asp Glu Glu Ile Tyr Tyr Val Ala Lys Asp Ala His
 325          330          335
Arg Lys Ala Thr Lys Ala Pro Ala Lys Gln Leu Ala Gln Ser Ser Ala
 340          345          350
Leu Ala Ser Leu Thr Gly Leu Gly Gly Leu Gly Gly Tyr Gly Ser Gly
 355          360          365
Asp Ser Glu Asp Glu Arg Ser Asp Arg Gly Ser Glu Ser Ser Asp Thr

```

370 375 380  
 Asp Asp Glu Glu Leu Arg His Arg Ile Arg Gln Lys Gln Glu Ala Phe  
 385 390 395 400  
 Trp Arg Lys Glu Lys Glu Gln Gln Leu Leu His Asp Lys Gln Met Glu  
 405 410 415  
 Glu Glu Lys Gln Gln Thr Glu Arg Val Thr Lys Glu Met Asn Glu Phe  
 420 425 430  
 Ile His Lys Glu Gln Asn Ser Leu Ser Leu Leu Glu Ala Arg Glu Ala  
 435 440 445  
 Asp Gly Asp Val Val Asn Glu Lys Lys Arg Thr Pro Asn Glu Thr Thr  
 450 455 460  
 Ser Val Leu Glu Pro Lys Lys Glu His Lys Glu Lys Glu Lys Gln Gly  
 465 470 475 480  
 Arg Ser Arg Ser Gly Ser Ser Ser Ser Gly Ser Ser Ser Ser Asn Ser  
 485 490 495  
 Arg Thr Ser Ser Thr Ser Ser Thr Val Ser Ser Ser Ser Tyr Ser Ser  
 500 505 510  
 Ser Ser Gly Ser Ser Arg Thr Ser Ser Arg Ser Ser Ser Pro Lys Arg  
 515 520 525  
 Lys Lys Arg His Ser Arg Ser Arg Ser Pro Thr Ile Lys Ala Arg Arg  
 530 535 540  
 Ser Arg Ser Arg Ser Tyr Ser Arg Arg Ile Lys Ile Glu Ser Asn Arg  
 545 550 555 560  
 Ala Arg Val Lys Ile Arg Asp Arg Arg Arg Ser Asn Arg Asn Ser Ile  
 565 570 575  
 Glu Arg Glu Arg Arg Arg Asn Arg Ser Pro Ser Arg Glu Arg Arg Arg  
 580 585 590  
 Ser Arg Ser Arg Ser Arg Asp Arg Arg Thr Asn Arg Ala Ser Arg Ser  
 595 600 605  
 Arg Ser Arg Asp Arg Arg Lys Ile Asp Asp Gln Arg Gly Asn Leu Ser  
 610 615 620  
 Gly Asn Ser His Lys His Lys Gly Glu Ala Lys Glu Gln Glu Arg Lys  
 625 630 635 640  
 Lys Glu Arg Ser Arg Ser Ile Asp Lys Asp Arg Lys Lys Lys Asp Lys  
 645 650 655  
 Glu Arg Glu Arg Glu Gln Asp Lys Arg Lys Glu Lys Gln Lys Arg Glu  
 660 665 670  
 Glu Lys Asp Phe Lys Phe Ser Ser Gln Asp Asp Arg Leu Lys Arg Lys  
 675 680 685  
 Arg Glu Ser Glu Arg Thr Phe Ser Arg Ser Gly Ser Ile Ser Val Lys  
 690 695 700  
 Ile Ile Arg His Asp Ser Arg Gln Asp Ser Lys Lys Ser Thr Thr Lys  
 705 710 715 720  
 Asp Ser Lys Lys His Ser Gly Ser Asp Ser Ser Gly Arg Ser Ser Ser  
 725 730 735  
 Glu Ser Pro Gly Ser Ser Lys Glu Lys Lys Ala Lys Lys Pro Lys His  
 740 745 750  
 Ser Arg Ser Arg Ser Val Glu Lys Ser Gln Arg Ser Gly Lys Lys Ala  
 755 760 765  
 Ser Arg Lys His Lys Ser Lys Ser Arg Ser Arg  
 770 775

&lt;210&gt; 4405

&lt;211&gt; 918

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4405

ngcttcctta cagcaccccc acctgccaga gctgacctc cctaggccct gcctaacctt  
 60  
 gagttggccc ccaatccctc tggctgcaga agtcccctta ccccaatga gaggaggggc  
 120  
 aggaccagat cttttgagag ctgagggttg agggcattga gccaacacac agatttgtcg  
 180  
 cctctgtccc cgaagacacc tgcaccctcc atgcggagcc aagatgggga atggaactga  
 240  
 ggaagattat aactttgtct tcaagggtac tatcgtggtg cagtgggggc ctcctggtg  
 300  
 tttgacctaa ccaagcacca gacctatgct gtggtggagc gatggctgaa ggagctctat  
 360  
 gaccatgctg aagccacgat cgtcgtcatg ctctggtgta acaaaagtga ctcagccag  
 420  
 gcccggaag tgccactga ggaggccga atgttcgctg aaaacaatgg actgctcttc  
 480  
 ctggagacct cagccctgga ctctaccaat gttgagctag cctttgagac tgcctgaaa  
 540  
 gaaatctttg cgaagggtgc caagcagaga cagaacagca tccggaccaa tgccatcact  
 600  
 ctgggcagtg cccaggctgg acaggagcct ggcctgggg agaagagggc ctggtgcac  
 660  
 agcctctgac cttggccagc accacctgcc cccactggct ttttggtgcc cttgtcccc  
 720  
 acttcagccc caggaccttt ccttgccctt tggttccaga tatcagactg ttccctgttc  
 780  
 acagcaccct cagggcttta aggtcttcat gccctatcac aaatacctct tttatctgtc  
 840  
 caccctcac agactaggac cctcaaataa agctgtttta tatcaaaaaa aaaaaaaaaa  
 900  
 aaaaaaaaaa aaaaaaaaaa  
 918

&lt;210&gt; 4406

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4406

Leu Cys Leu Gln Gly Tyr Tyr Arg Gly Ala Val Gly Ala Leu Leu Val  
 1 5 10 15  
 Phe Asp Leu Thr Lys His Gln Thr Tyr Ala Val Val Glu Arg Trp Leu  
 20 25 30  
 Lys Glu Leu Tyr Asp His Ala Glu Ala Thr Ile Val Val Met Leu Val  
 35 40 45  
 Gly Asn Lys Ser Asp Leu Ser Gln Ala Arg Glu Val Pro Thr Glu Glu  
 50 55 60  
 Ala Arg Met Phe Ala Glu Asn Asn Gly Leu Leu Phe Leu Glu Thr Ser  
 65 70 75 80  
 Ala Leu Asp Ser Thr Asn Val Glu Leu Ala Phe Glu Thr Val Leu Lys

```
<210> 4408
<211> 158
<212> PRT
<213> Homo sapiens
```

&lt;400&gt; 4408

Arg Met Phe Asp Val Gly Gly Gln Arg Ser Glu Arg Lys Lys Trp Ile  
 1 5 10 15  
 His Cys Phe Glu Gly Val Thr Cys Ile Ile Phe Cys Ala Ala Leu Ser  
 20 25 30  
 Ala Tyr Asp Met Val Leu Val Glu Asp Glu Glu Val Asn Arg Met His  
 35 40 45  
 Glu Ser Leu His Leu Phe Asn Ser Ile Cys Asn His Lys Tyr Phe Ser  
 50 55 60  
 Thr Thr Ser Ile Val Leu Phe Leu Asn Lys Lys Asp Ile Phe Gln Glu  
 65 70 75 80  
 Lys Val Thr Lys Val His Leu Ser Ile Cys Phe Pro Glu Tyr Thr Gly  
 85 90 95  
 Pro Asn Thr Phe Glu Asp Ala Gly Asn Tyr Ile Lys Asn Gln Phe Leu  
 100 105 110  
 Asp Leu Asn Leu Lys Lys Glu Asp Lys Glu Ile Tyr Ser His Met Thr  
 115 120 125  
 Cys Ala Thr Asp Thr Gln Asn Val Lys Phe Val Phe Asp Ala Val Thr  
 130 135 140  
 Asp Ile Ile Ile Lys Glu Asn Leu Lys Asp Cys Gly Leu Phe  
 145 150 155

&lt;210&gt; 4409

&lt;211&gt; 4217

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4409

gagagctctg aggaggagga gggggaggag ggggaggctg ggggcaagca ggggccacgg  
 60  
 ggaagccgaa gcagccgggc agacccccct cccacagtc acatggccac acggtcccgg  
 120  
 gagaacgccc ggcgccgggg taccctgaa cctgaagaag ctggcgggcg ggggtgggaag  
 180  
 aggccaaagc caccctctgg agtggcctct gcatcgccc gagggccgcc agccactgat  
 240  
 gggctggggg ccaaggtgaa gctggaggag aagcagcacc atccatgcca gaagtgccca  
 300  
 cgagttttca acaaccgctg gtacctggag aaacacatga atgtgaccca cagccgcatg  
 360  
 cagatctgcg accagtgcgg caagcgcttc ctgctggaga gcgagctgct gctgcacagg  
 420  
 cagacagact gcgagcgcaa catccagtgt gtgacatgtg gcaaagcttt caagaagctt  
 480  
 tggtccttcc atgagcataa caagattgtg cacggctacg cagagaagaa gttctcatgc  
 540  
 gagatctgtg agaagaagtt ctacacatg gccacgtgc gtaagcacat ggttgccac  
 600  
 accaaggaca tgcccttcac ctgcgagacc tgcggaaagt ccttcaaacg cagtatgtca  
 660  
 ctcaaggtgc actccttgca gcattctgga gagaagccct ttagatgcga gaactgtgac  
 720  
 gaaaggtttc agtacaagta ccagctacgc tccacatga gcattcatat tgggcacaaa  
 780

cagttcatgt gccagtgggtg tggcaaggat ttcaacatga agcagtactt cgacgaacac  
840  
atgaaaacac aactgggaga gaaacccttt atctgtgaaa tctgtggcaa aagcttcacc  
900  
agccgcccc aatgaagag acaccgcaga actcacacag gcgagaagcc ctatccatgt  
960  
gatgtgtgtg gccagcgggtt ccgcttctcg aacatgctca aggccacaaa ggagaagtgc  
1020  
ttccgctca gccacaccct ggccggcgac ggcgtcccg ctgcccagg cctgccccca  
1080  
accagcccc aggcgcacgc actgcccctg ctcccggggc tgcccagac cctgcccgc  
1140  
ccgccccacc tgccgcccc gcctccgctc ttccccacca ctgccagccc cggcgggagg  
1200  
atgaacgcca acaactagct gccgagctgc acccgtgcac ccgctggggc ctggagtca  
1260  
ggcccactcc aggagggacc cactgccttc ccggggagca cagtagtgcg ggcctgggac  
1320  
ctgctccacc tccagaagtg gctggatgta cctgcctga ggccccgacg aggaggggta  
1380  
tgcaggtgg caggccccag agctgggtga gggcatctca ctcccaagt ccccccttt  
1440  
ctgtgactcc ttgaagcctt tacttttttt ttttttttg aagtgaagga aaaagaaact  
1500  
atttacagca ctcccccca ggtgaggggg gtgctggggg tctgcagcag aaagaaagg  
1560  
gcctgggcag caggtgtggc cagtcctct gccaaggcct gtgccagagg ggttgccag  
1620  
ttggagcctg ggtcagcctc agcagcctat cccatgtcc tctatgcccc taatttgct  
1680  
cctcatcttg gagggtttg ggagaagtg gcgtgccacc cccacaacc ctgaggagg  
1740  
gtagaccag tctgagagcc gcaagcactg aggcagggcc tgagactgga cctgggtgag  
1800  
cgtgggggt ggagggtggc gaggtgcgga gactgcagac cagtgttca ctgtgtggag  
1860  
tggggcaggc aggggctgga cccagggac ttgcctccc caccactct gctgccagca  
1920  
ggcccaggga tccctgacct gcaccaggtg gcaccaaggg tctgagtcc tggagatgc  
1980  
cccagaagct gctgtgctc acagcgtgt gagccagacc ctcttgggc agacaggctg  
2040  
actggcagca ccagcttttg gggcagagtc ctaggatgag gcttgggcag tgctggtagg  
2100  
gtttcaagg gctattagt gggcaggggc agggcggtg ctacagagc acccagttc  
2160  
ctcaccagct actctggcca tatatccac accagaagga acaagtgtg ctgtgtccat  
2220  
ctctgtccc ccaaaggccc gctctaggcc ttatctccc tctaggtcct gccacaacct  
2280  
gtccctggct ggtccagcg tcctcgctc tcctgggcct gtgcaccggt ggggtggggc  
2340  
cccatagcac tgccggtaaa ggagcctgca tgttcaggcc cctcggggga ttggggggac  
2400

tggggaggcg cagcctagac ccaattgctt gccccatga ggctagcact aataggaaac  
2460  
ccttttttgt tgtcatttaa tgtctttatt cctgccttta atatggggag gaagggtcca  
2520  
taagctacat gtttcctagt taagctcttt cctatttgtt ttatacagtt ttgtttgtta  
2580  
tactctttgc accttaaacc cccaccactc cccgacacta ttgccttccc agcatggctg  
2640  
gagtgggaag aggcttgggc cccgggggaa tggttagggg gactgaaccc ctctgacctt  
2700  
atgaggccca tggcactggg gcaggggagct ggggacattt taatcatcaa taaacgaagc  
2760  
actttattct gtacagattt gggcaggccc aagggtgccc agtgatctga ggatttataa  
2820  
tccaagccac accaccctgg ttgttctctg ggcttggagg gtacagtgcc agcagcttcc  
2880  
ttgcccaatt gatgttggag ctgtagacgt acgctcaggc gctcctgctg tcctggggga  
2940  
gagaagggtc gcccctcccc gaggaagaag gcttctggtc aggaccccca cccaaggct  
3000  
ggggactcca ggctcctgct ttactgtagc tctttttctt ccttgcactc cttgatcttt  
3060  
gggcttccgt gatgtcctca gggccccccc ctccctgttg ctatttttaa tctctagtcc  
3120  
cagtgcctgg cagctctttg gagctggctc acattttccc aaaaaagtt gatctctccc  
3180  
agtgggctgt aggcagggtc ctccatgggt ttccaacccc catcactggc accaggatct  
3240  
cccacaggca ctggtggtgt catcacctgc tggccccact acagcctgag taggcctgag  
3300  
tggccgtggc caggctgaga cctgtcaggc catactgaca agcagaggtc agagacactg  
3360  
gtggggagct ggcaatgaaa ccctgtcctg ggacatgggt ttcattgtct tgtacacttc  
3420  
ccctctggga tcaggtgagg ggtccagaca gctgaccaga cagcttgaca gctggtcaag  
3480  
acggtcacgg gagctctagg tgggcacaac caaccctct cctgggaggc ccctgcccc  
3540  
ctggggatag gagcctgtgt ccctggtgct aagcactctc ttcacttggg ccattgttgg  
3600  
tgggggctcc tttccggcca gaccacaagg ccagaagcaa taatggcacc tcagcagttc  
3660  
cagtatggat aggggttcct gttttactag cttttacatc tttttattta aaacaaaaca  
3720  
acacaaaaaa acaatgtgcc ccagatgtc agaatgaggc gactagggca ccatactcac  
3780  
tttccagggc tgggggaagg gggacgcagg atcatcccct cccaaggaga tctgtggggg  
3840  
tcccaccgtc catctggact tctcagcctg tttggctaga actcaggcct ggagtctggg  
3900  
tctgccccct ccccggtcc ttggggctct ctggtctcag gccagctggc gatgggtggc  
3960  
tagagtgatg aactcaagcc ctgtggccac agttctggga gccttcaacc ctggctcatg  
4020



ctgccatagt ctccacggtg cccttcacag agggcttggt agtggcagaa tggccatgcc  
 4080  
 caggtgtgtg ttgagaccat tgacaactgc tcgtgtacag gcaccccaca gccccagagc  
 4140  
 atggggcaca gcaggcatgc gagtgagagg atgaagggga ataaagtcag tacaactcgt  
 4200  
 aaaaaaaaaa aaaaaaa  
 4217

<210> 4410

<211> 405

<212> PRT

<213> Homo sapiens

<400> 4410

Glu	Ser	Ser	Glu	Glu	Glu	Glu	Gly	Glu	Glu	Gly	Glu	Ala	Gly	Gly	Lys
1			5					10					15		
Gln	Gly	Pro	Arg	Gly	Ser	Arg	Ser	Ser	Arg	Ala	Asp	Pro	Pro	Pro	His
		20					25					30			
Ser	His	Met	Ala	Thr	Arg	Ser	Arg	Glu	Asn	Ala	Arg	Arg	Arg	Gly	Thr
	35					40					45				
Pro	Glu	Pro	Glu	Glu	Ala	Gly	Arg	Arg	Gly	Gly	Lys	Arg	Pro	Lys	Pro
	50				55					60					
Pro	Pro	Gly	Val	Ala	Ser	Ala	Ser	Ala	Arg	Gly	Pro	Pro	Ala	Thr	Asp
65			70						75					80	
Gly	Leu	Gly	Ala	Lys	Val	Lys	Leu	Glu	Glu	Lys	Gln	His	His	Pro	Cys
			85					90					95		
Gln	Lys	Cys	Pro	Arg	Val	Phe	Asn	Asn	Arg	Trp	Tyr	Leu	Glu	Lys	His
			100				105					110			
Met	Asn	Val	Thr	His	Ser	Arg	Met	Gln	Ile	Cys	Asp	Gln	Cys	Gly	Lys
	115						120					125			
Arg	Phe	Leu	Leu	Glu	Ser	Glu	Leu	Leu	Leu	His	Arg	Gln	Thr	Asp	Cys
	130					135					140				
Glu	Arg	Asn	Ile	Gln	Cys	Val	Thr	Cys	Gly	Lys	Ala	Phe	Lys	Lys	Leu
145				150					155					160	
Trp	Ser	Leu	His	Glu	His	Asn	Lys	Ile	Val	His	Gly	Tyr	Ala	Glu	Lys
			165					170					175		
Lys	Phe	Ser	Cys	Glu	Ile	Cys	Glu	Lys	Lys	Phe	Tyr	Thr	Met	Ala	His
			180				185					190			
Val	Arg	Lys	His	Met	Val	Ala	His	Thr	Lys	Asp	Met	Pro	Phe	Thr	Cys
	195					200						205			
Glu	Thr	Cys	Gly	Lys	Ser	Phe	Lys	Arg	Ser	Met	Ser	Leu	Lys	Val	His
	210				215						220				
Ser	Leu	Gln	His	Ser	Gly	Glu	Lys	Pro	Phe	Arg	Cys	Glu	Asn	Cys	Asp
225				230					235					240	
Glu	Arg	Phe	Gln	Tyr	Lys	Tyr	Gln	Leu	Arg	Ser	His	Met	Ser	Ile	His
			245				250						255		
Ile	Gly	His	Lys	Gln	Phe	Met	Cys	Gln	Trp	Cys	Gly	Lys	Asp	Phe	Asn
		260				265						270			
Met	Lys	Gln	Tyr	Phe	Asp	Glu	His	Met	Lys	Thr	His	Thr	Gly	Glu	Lys
	275					280						285			
Pro	Phe	Ile	Cys	Glu	Ile	Cys	Gly	Lys	Ser	Phe	Thr	Ser	Arg	Pro	Asn
	290				295						300				
Met	Lys	Arg	His	Arg	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Tyr	Pro	Cys

```

305          310          315          320
Asp Val Cys Gly Gln Arg Phe Arg Phe Ser Asn Met Leu Lys Ala His
          325          330          335
Lys Glu Lys Cys Phe Arg Val Ser His Thr Leu Ala Gly Asp Gly Val
          340          345          350
Pro Ala Ala Pro Gly Leu Pro Pro Thr Gln Pro Gln Ala His Ala Leu
          355          360          365
Pro Leu Leu Pro Gly Leu Pro Gln Thr Leu Pro Pro Pro Pro His Leu
          370          375          380
Pro Pro Pro Pro Pro Leu Phe Pro Thr Thr Ala Ser Pro Gly Gly Arg
385          390          395          400
Met Asn Ala Asn Asn
          405

```

<210> 4411  
 <211> 484  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4411
cccaaggcag cagcaggctt gccaggtggg aaggaccaga aggcagccca gcggtgggga
60
gtgtggagtg aatggggctg aaagggtagg gctggccac agagggtggg gaggctgcag
120
caaaagagga gtttaggtg gctatggtgc aggggcagct gtatgcttca cctcaaatgt
180
tactgtcttc tctctccatc aaggaggaag ggcccaggct ggggttagga gggctagggg
240
cccaggctgt gtgtccctt tttctctct ggtgcctgc ccccccacgc tgtcatctcc
300
ctcagtggca gtgggggttc atcactgggt cttcagggtcc cttgcccatg gctgggtggg
360
ttccagggtg gcccaaccag ggggccctg cctctaggca gcgcgtaggt ttccttgggc
420
agcctcaatc ctgccagcgc cagcatgtct cctgcacag aagccatcaa gcacctttgg
480
atcc
484

```

<210> 4412  
 <211> 113  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4412
Met Val Gln Gly Gln Leu Tyr Ala Ser Pro Gln Met Leu Leu Ser Ser
1          5          10          15
Leu Ser Ile Lys Glu Glu Gly Pro Arg Leu Gly Leu Gly Gly Leu Gly
20          25          30
Ala Gln Ala Val Cys Pro Leu Phe Ser Ser Trp Cys Pro Ala Pro Pro
35          40          45
Arg Cys His Leu Pro Gln Trp Gln Trp Gly Phe Ile Thr Gly Ser Ser
50          55          60
Gly Pro Leu Pro Met Ala Gly Gly Val Pro Gly Gly Pro Asn Gln Ala

```

65		70		75		80									
Ala	Pro	Ala	Ser	Arg	Gln	Arg	Val	Gly	Phe	Leu	Gly	Gln	Pro	Gln	Ser
			85						90					95	
Cys	Gln	Arg	Gln	His	Val	Ser	Leu	His	Arg	Ser	His	Gln	Ala	Pro	Leu
			100						105					110	

Asp

&lt;210&gt; 4413

&lt;211&gt; 1097

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4413

```

atggcgctgc tttttgcacg ttctttgcgc ttgtgccgct ggggagccaa acgattggga
60
gttgccctcca cagagcgcca gagaggcgct agtttcaaac tggaagaaaa aaccgcccac
120
agcagcctgg cactcttcag agatgatacg ggtgtcaaata atggcttggg gggattggag
180
cccaccaagg tgccttgaat gtggagcgct tccgggagtt ggcagggtgct ggcagacaca
240
gcggtcacca gtggcagaca ctactgggaa gtgacagtga agcgctccca gcagttccgg
300
ataggagtgg cagatgtgga catgtcccgg gatagctgca ttggtgttga tgatcgttcc
360
tggtgtgttca cctatgcccc gcgcaagtgg tacaccatgt tggccaacga gaaagcccca
420
gttgagggta ttgggcagcc agagaagggtg gggctgttgc tggagtatga ggcccagaag
480
ctgagcctgg tggatgtgag ccagggtctct gtggttcaca cgctacagac agatttccgg
540
ggtccagtgg tgcctgcctt tgctctctgg gatggggagc tgctgaccca ttcagggtt
600
gaggtgcccg agggcctcta gtatgtccat tactggagtc cctaatacag cctttggcca
660
gcctcctttt gaaagtgtcc gaagcctttt tactttgcct caagcaacct ctagctccca
720
caattcagtg ttgggtcctc tgtgcaatat catgatcatc ttctcatcc cctaccttgt
780
gaaagctagg catacagcca aaccctcctt tccccaccc accaactact gccaatctcc
840
taggctacca tgggtgtatc ttccttgacc tgcttccctc agtccctctg cctccctttg
900
cccaggcctt tctcagactg tattccatcc tgggggtctta tcattcagct ttgtttgaat
960
ttattaatca ccatgatacc tctccctccc ttgtccaca tgtaacttgt tcttggggct-
1020
ctaccagatg gctgaagagt aaatccttcc tacctctggc tgaaaaaaaa aaaaaaaaaa
1080
aaaaaaaaaa aaaaaaa
1097

```

&lt;210&gt; 4414

<211> 65  
 <212> PRT  
 <213> Homo sapiens

<400> 4414  
 Met Ala Leu Leu Phe Ala Arg Ser Leu Arg Leu Cys Arg Trp Gly Ala  
 1 5 10 15  
 Lys Arg Leu Gly Val Ala Ser Thr Glu Arg Gln Arg Gly Val Ser Phe  
 20 25 30  
 Lys Leu Glu Glu Lys Thr Ala His Ser Ser Leu Ala Leu Phe Arg Asp  
 35 40 45  
 Asp Thr Gly Val Lys Tyr Gly Leu Val Gly Leu Glu Pro Thr Lys Val  
 50 55 60  
 Pro  
 65

<210> 4415  
 <211> 775  
 <212> DNA  
 <213> Homo sapiens

<400> 4415  
 taaaaggaaa acagtgtctt tatttgttgt agttctaaca aacgttcact gtgtgcgcat  
 60  
 tccagcagaa agagacaaag atctttgttc aaaatattct gaaaaaggta aactaactgc  
 120  
 attattgaat acacaaaagg aatgttaccg ttacttggtc atagtcaaag gtgaagttaa  
 180  
 aaaaaaaggg aagttaaata actgaagtaa tggtttgccc aaatagcaaa cgtaggatac  
 240  
 aggcgtaggg aaagagcagc tactgaagct catgaggagg atgctggata tagggtaggt  
 300  
 aacttgacaa atgcctctgc ttctttggaa cttcttctct agatcacccc cacaaattcc  
 360  
 aaacctggct ctttcagagc acaacagcca aatgtaacta aactcctcat tacttctgtg  
 420  
 atatttgcca acagaatgag atagttaa aaataatcaa tttcttggtg agacaagaca  
 480  
 tgtctgaatc catttctctt ggggtaggag gaggtaatga acattaacgt tctgcatctc  
 540  
 aatctcctaa aatggaattt aaccagatag atatcgcttg agattttaaa gcaggagata  
 600  
 ccataagtaa tgatactcca ggctgtaaa gcatttttca ttgtcccaca ttgcagctaa  
 660  
 atgagtataa actcgacagt gttctgattt cacaacatat gcatttatga caactgctaa  
 720  
 aacaacttta caggetcaaa cgatagggtc caagggattt ttgtttttgc ttaag  
 775

<210> 4416  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 4416

```

Met Lys Asn Ala Leu Gln Ala Trp Ser Ile Ile Thr Tyr Gly Ile Ser
 1           5           10           15
Cys Phe Lys Ile Ser Ser Asp Ile Tyr Leu Val Lys Phe His Phe Arg
      20           25           30
Arg Leu Arg Cys Arg Thr Leu Met Phe Ile Thr Ser Ser Tyr Pro Lys
      35           40           45
Arg Asn Gly Phe Arg His Val Leu Ser Gln Gln Glu Ile Asp Phe Phe
      50           55           60
Leu Asn Tyr Leu Ile Leu Leu Pro Asn Ile Thr Glu Val Met Arg Ser
65           70           75           80
Leu Val Thr Phe Gly Cys Cys Ala Leu Lys Glu Pro Gly Leu Glu Phe
      85           90           95
Val Gly Val Ile
      100

```

&lt;210&gt; 4417

&lt;211&gt; 980

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4417

```

nnacgcgtga gggaaaagca gaggcagttg gaggtagcgc aagttgaaaa ccagctgcta
60
aaaatgaagg tggaatcgtc ccaagaagcc aatgctgagg tgatgcgaga gatgaccaag
120
aagctgtaca gccagtatga ggagaagctg caggaagaac agaggaagca cagtgtctgag
180
aaggaggctc ttttggaaga aaccaatagt tttctgaaag cgattgaaga agccaataaa
240
aagatgcaag cagcagagat cagcctagag gagaaagacc agaggatcgg ggagctggac
300
aggctgattg agcgcattga aaaggaacgt catcaactgc aacttcaact cctagaacat
360
gaaacagaaa tgtctgggga gttaactgat tctgacaagg aaaggatatca gcagttggag
420
gaggcatcag ccagcctccg tgagcggatc agacacctag atgacatggt gcattgccag
480
cagaagaaag tcaagcagat ggttgaggag attgagtcac taaagaaaaa agtgcaacag
540
aagcagctcc tgatactgca gcttttagaa aaaatctctt tcctggaagg agagaataat
600
gaactacaaa gcaggttgga ctatttgaca gaaaccagg ccaagactga agtggaacaa
660
agagaaattg gagggtgctg tgatcttctt ccagcccaa caggcaggac tcgtgaaatt
720
gtgatgcctt ctaggaacta caccctacac acaagagtcc tggagttatc ctcaaagaaa
780
acgctgactt aggcactcag aggcatacac tttttacaga tggacaaaag ctctggaacc
840
ctgtggtctc aaatcctttg ggaagggtga ctgttggttc ccctacacac agtgaagcc
900
ggaatgggaa tcgctgaggc tctgatccac ttctaagaca ggaaggaaag tgaaggcaga
960

```

gtgagcaggt aagagagga  
980

<210> 4418

<211> 263

<212> PRT

<213> Homo sapiens

<400> 4418

Xaa	Arg	Val	Arg	Glu	Lys	Gln	Arg	Gln	Leu	Glu	Val	Ala	Gln	Val	Glu
1				5				10					15		
Asn	Gln	Leu	Leu	Lys	Met	Lys	Val	Glu	Ser	Ser	Gln	Glu	Ala	Asn	Ala
		20						25				30			
Glu	Val	Met	Arg	Glu	Met	Thr	Lys	Lys	Leu	Tyr	Ser	Gln	Tyr	Glu	Glu
		35					40					45			
Lys	Leu	Gln	Glu	Glu	Gln	Arg	Lys	His	Ser	Ala	Glu	Lys	Glu	Ala	Leu
	50					55					60				
Leu	Glu	Glu	Thr	Asn	Ser	Phe	Leu	Lys	Ala	Ile	Glu	Glu	Ala	Asn	Lys
65					70					75				80	
Lys	Met	Gln	Ala	Ala	Glu	Ile	Ser	Leu	Glu	Lys	Asp	Gln	Arg	Glu	Ile
			85					90					95		
Gly	Glu	Leu	Asp	Arg	Leu	Ile	Glu	Arg	Met	Glu	Lys	Glu	Arg	His	Gln
		100						105					110		
Leu	Gln	Leu	Gln	Leu	Leu	Glu	His	Glu	Thr	Glu	Met	Ser	Gly	Glu	Leu
		115					120					125			
Thr	Asp	Ser	Asp	Lys	Glu	Arg	Tyr	Gln	Gln	Leu	Glu	Glu	Ala	Ser	Ala
	130					135						140			
Ser	Leu	Arg	Glu	Arg	Ile	Arg	His	Leu	Asp	Asp	Met	Val	His	Cys	Gln
145					150					155					160
Gln	Lys	Lys	Val	Lys	Gln	Met	Val	Glu	Glu	Ile	Glu	Ser	Leu	Lys	Lys
			165					170						175	
Lys	Val	Gln	Gln	Lys	Gln	Leu	Leu	Ile	Leu	Gln	Leu	Leu	Glu	Lys	Ile
		180						185					190		
Ser	Phe	Leu	Glu	Gly	Glu	Asn	Asn	Glu	Leu	Gln	Ser	Arg	Leu	Asp	Tyr
	195					200						205			
Leu	Thr	Glu	Thr	Gln	Ala	Lys	Thr	Glu	Val	Glu	Thr	Arg	Glu	Ile	Gly
	210					215						220			
Val	Gly	Cys	Asp	Leu	Leu	Pro	Ser	Pro	Thr	Gly	Arg	Thr	Arg	Glu	Ile
225					230					235					240
Val	Met	Pro	Ser	Arg	Asn	Tyr	Thr	Pro	Tyr	Thr	Arg	Val	Leu	Glu	Leu
			245					250					255		
Ser	Ser	Lys	Lys	Thr	Leu	Thr									
			260												

<210> 4419

<211> 369

<212> DNA

<213> Homo sapiens

<400> 4419

ngaattcctt gtatcgaaag tgccagaata cataactatattt attatgtatt tatttctaaga  
60  
cagggtcttg ctctgntcac ccaggctgga gtgcagtggg gcgatcttgg ctactgcaa  
120

cctccgcctc cccagctcaa gcaactctcc tgccccagcc acccaagtnn aaattacagg  
 180  
 cccgtgccac cacacccggc caattttctgt atttttagta gagacgggggt ttcaccatat  
 240  
 tggccaggac ggtctcaaac tcctggcccc atgtgatcct cccaccttgg cctcccaagg  
 300  
 tgctggtatt acaggcgtga gccaccactg cgcctggcca gattttgctc ttttttgagc  
 360  
 agtctcagn  
 369

<210> 4420

<211> 91

<212> PRT

<213> Homo sapiens

<400> 4420

Xaa	Ile	Pro	Cys	Ile	Glu	Ser	Ala	Arg	Ile	His	Thr	Ile	Tyr	Tyr	Val
1				5					10					15	
Phe	Ile	Leu	Arg	Gln	Gly	Leu	Ala	Leu	Xaa	Thr	Gln	Ala	Gly	Val	Gln
			20					25					30		
Trp	Cys	Asp	Leu	Gly	Ser	Leu	Gln	Pro	Pro	Pro	Pro	Gln	Leu	Lys	Gln
		35				40					45				
Leu	Ser	Cys	Pro	Ser	His	Pro	Ser	Xaa	Asn	Tyr	Arg	Pro	Val	Pro	Pro
	50					55					60				
His	Pro	Ala	Asn	Phe	Cys	Ile	Phe	Ser	Arg	Asp	Gly	Val	Ser	Pro	Tyr
65				70					75						80
Trp	Pro	Gly	Arg	Ser	Gln	Thr	Pro	Gly	Pro	Met					
			85						90						

<210> 4421

<211> 1356

<212> DNA

<213> Homo sapiens

<400> 4421

nctggcagag tgtgagggaa gaggcgctaa tccctttccc atctggcctg gcctctcggg  
 60  
 tgtggacacc aaatcccgca ggggttgctg tagctatgcc cgtgggcatc cttgccctgg  
 120  
 ctgggggtgtg ctagagagag gaaagctgga ggaggagagc tgagctggtg gttaccccat  
 180  
 gccaggaggg ccaaggcaag aagcctgcag cccagagat actgaccctg tccctgccc  
 240  
 tccaggcac aactgaacta acggaatggc ttaatcagat agctcgagaa ctgccactac  
 300  
 cactccctcc ctgccactc ctcccaaagt ccacctgtc cgcgaagagt cccacctcac  
 360  
 aagcaaccac cagaggctga tacaatggc cgctgtatct ttgctaaagt gacagtgaca  
 420  
 cagataaggc aaagagctga ggggcaggac acatcagatg ggaaggggga gaccgtgcaa  
 480  
 aatggcagtc taacagaaaa tcatccttgt accaacagcc ccttcctcc caagttaggt  
 540

gagcccttgg gccagtgtat gggcagaaaa gcagatttgt gtccttcaga agggaaatgt  
 600  
 aaaaagggtga aagctctagt tgaagggcag tgagaggggc tggagtggga gagaagggtct  
 660  
 ctccctggccg gtggtctggg tgcagcaagg gcaactctgag aaggcagaat ggaaacgcag  
 720  
 ggctggaggg gcatgggtac aggtttgggg gctctttcca gcctctacta tgttgcccc  
 780  
 ttccccaag cccttacagg ggcagaagca cattccccgt gaccctgagt ctggcctcat  
 840  
 ttgggaagtc ttctggggtg tatggatgcc tgtgtgtgtg agtgagatgg gtggggggcc  
 900  
 acggctatct ggctctagca cactcatggg agaccagctc tgggaacaac aggatggggt  
 960  
 gctgggatgg gggtttaaga ggtctctgct agatatttct gaactgacct cccaggtgc  
 1020  
 ccaacctggc cttgggaaga gagtgcctag ggcagcgggg atggaaaccc ttgcctgcag  
 1080  
 cataggtcca ggcctcatgg ccctacacct tgacctcttg actttgttgc cctggcctta  
 1140  
 agtacaaga ttcctcactg cgtgctaaga aaacagatcc cgggccgggc ccggttgctc  
 1200  
 acacctataa tcccagcact ttggaaggct gaggcgggtg aatcacctga gatcaggagt  
 1260  
 tcgagaccag cctggccaac atggcaaac cctgtctcta ctaaaaacac aaaaatttgc  
 1320  
 cgggcatggt ggcagatgcc tgtaatccca gctact  
 1356

<210> 4422

<211> 58

<212> PRT

<213> Homo sapiens

<400> 4422

Gly	Arg	Ala	Arg	Leu	Leu	Thr	Pro	Ile	Ile	Pro	Ala	Leu	Trp	Lys	Ala
1				5					10					15	
Glu	Ala	Gly	Glu	Ser	Pro	Glu	Ile	Arg	Ser	Ser	Arg	Pro	Ala	Trp	Pro
			20					25					30		
Thr	Trp	Gln	Asn	Pro	Val	Ser	Thr	Lys	Asn	Thr	Lys	Ile	Cys	Arg	Ala
		35					40					45			
Trp	Trp	Gln	Met	Pro	Val	Ile	Pro	Ala	Thr						
	50						55								

<210> 4423

<211> 2673

<212> DNA

<213> Homo sapiens

<400> 4423

tccggaagtg gcttctgcga caacatgctt gcggacctcg gcttaatcgg aaccataggc  
 60  
 gaggatgacg aggtgccggt ggagcccagag tctgactccg gggacgagga agaggagggg  
 120



cccattgtgc tgggcagacg acaaaaagct ttggggaaga accgcagtgc tgatttcaac  
180  
cctgatttcg ttttactga gaaggagggg acgtacgatg gcagctgggc cctggctgat  
240  
gtcatgagcc aactcaagaa gaagagggca gccactacat tagatgagaa gattgagaaa  
300  
gttcgaaaga aaaggaaaac agaggataaa gaagccaagt ctgggaagtt ggaaaaggag  
360  
aaagaagcaa aggaaggctc tgaaccaagg gagcaggaag accttcaaga gaatgatgag  
420  
gaaggctcag aagatgaagc ctcggagact gactactcat cagctgatga gaacatcctc  
480  
accaaagcag atacactcaa agtaaaggat cggaagaaga agaagaagaa aggacaggaa  
540  
gcaggaggat tttttgaaga tgcattctcag tacgatgaaa acctctcggt ccaggacatg  
600  
aacctttccc gccctcttct gaaggccatt acagccatgg gcttcaagca gccacccccg  
660  
atccagaagg cgtgcatacc tgtgggtcta ttggggaagg acatctgtgc ctgtgcagcc  
720  
actgggacag gtaaaactgc cgcctttgcc ctgcctgttt tggagcgtct gatttataaa  
780  
ccccgccagg ctccagtcac ccgcgtgctg gtgctagtgc ccaccogaga gctgggcatc  
840  
cagggtgact ctgtcaccag acagctggcc cagttctgca acatcaccac ctgcctggct  
900  
gtgggcggct tggatgtgaa gtctcaggaa gcagctcttc gggcagcgcc tgacatcctc  
960  
atcgccaccc caggccggct catcgatcac ctccacaact gcccttctt ccacctgagc  
1020  
agcatcgagg tgctatcct ggacgaggct gacaggatgc tggatgagta ctttgaggag  
1080  
cagatgaagg agatcatccg aatgtgttcc caccacogcc agaccatgct cttctcggcc  
1140  
accatgacag acgaggtgaa agatctggct tctgtctcct tgaagaatcc tgtccggata  
1200  
tttgtgaaca gcaacacaga tgtggctccc ttctgcggc aggagtcat ccggatccgg  
1260  
cctaactcgtg aaggagaccg ggaagccatc gtggcagctt tgttgacgag gaccttcatc  
1320  
gaccatgtga tgctgttcac gcaaaccaag aagcaggccc accgcatgca catcctcctg  
1380  
gggctcatgg ggctgcaggt gggtgagctc catggcaact tgtcacagac gcagcggctg  
1440  
gaggccctcc ggcgttttaa ggatgaacag attgacatcc tcgtggccac tgatgtggca  
1500  
gcccgtagac ttgacattga ggggtcaaa acggtaatca acttcacaat gcctaatacc  
1560  
atcaaacatt atgtccaccg ggtggggcga acagcacgtg ctggcagggc tgggcgctca  
1620  
gtctctctgg tgggagaaga tgagcggag atgtgaagg agattgtaa agctgccaag  
1680  
gccctgtga aggccaggat acttcccaa gatgtcatcc tcaaattccg ggacaagatt  
1740

gagaaaatgg agaaagatgt gtatgcagtt ctgcagctag aggcggagga aaaagagatg  
 1800  
 cagcagtcag aagcccagat caatacagca aagcggctcc tggagaaggg gaaggaggca  
 1860  
 gtgggtccaag agcccagag gagctggttc cagaccaaag aagagaggaa gaaggagaaa  
 1920  
 attgccaaag ctctgcagga atttgacttg gccttaagag gaaagaagaa aaggaagaag  
 1980  
 tttatgaagg atgccaaaaa aaagggggag atgacagcag aggaaaggtc tcagtttgaa  
 2040  
 atcctcaagg cgcagatggt tgctgaacgg ctacggaaga ggaatcgag agccaagcgg  
 2100  
 gcccgagcaa tgcccagga ggagccagtg agaggtcctg ccaagaagca aaagcagggg  
 2160  
 aagaaatctg tatttgatga agaactcacc aacacaagca agaaggccct gaaacagtat  
 2220  
 cgagctggcc ctctctttga agaaaggaaa cagttgggct tgccccacca gagacgagga  
 2280  
 ggaaacttta aatctaaatc caggtgatac tggctgtttt ggaggggcac atgttttggg  
 2340  
 attagagata aaaacctttc atggaaaaga agcttctcca tcctcattct ggtcttaact  
 2400  
 ctgattttct tacagataca agaggaggaa gtagctgtcg tggcctgaag aaattcatgg  
 2460  
 gggcagccct taaatccctt ccctgtggga agtcacctg gctgggtctgt cttttctcca  
 2520  
 tttgtttaaa aaaaaaaca aaacaaaaaa caacactttg gtgtgggtgt atggtacgta  
 2580  
 gctattttcc taagcatgtc tgtcaatctc ccttcttgct gattagcttt catatgacta  
 2640  
 tattaaatgg aagtattttt gggaaaagag aaa  
 2673

<210> 4424

<211> 768

<212> PRT

<213> Homo sapiens

<400> 4424

Ser	Gly	Ser	Gly	Phe	Cys	Asp	Asn	Met	Leu	Ala	Asp	Leu	Gly	Leu	Ile
1				5					10					15	
Gly	Thr	Ile	Gly	Glu	Asp	Asp	Glu	Val	Pro	Val	Glu	Pro	Glu	Ser	Asp
			20					25					30		
Ser	Gly	Asp	Glu	Glu	Glu	Glu	Gly	Pro	Ile	Val	Leu	Gly	Arg	Arg	Gln
		35					40				45				
Lys	Ala	Leu	Gly	Lys	Asn	Arg	Ser	Ala	Asp	Phe	Asn	Pro	Asp	Phe	Val
		50				55				60					
Phe	Thr	Glu	Lys	Glu	Gly	Thr	Tyr	Asp	Gly	Ser	Trp	Ala	Leu	Ala	Asp
65				70					75				80		
Val	Met	Ser	Gln	Leu	Lys	Lys	Lys	Arg	Ala	Ala	Thr	Thr	Leu	Asp	Glu
			85					90					95		
Lys	Ile	Glu	Lys	Val	Arg	Lys	Lys	Arg	Lys	Thr	Glu	Asp	Lys	Glu	Ala
			100					105					110		
Lys	Ser	Gly	Lys	Leu	Glu	Lys	Glu	Lys	Glu	Ala	Lys	Glu	Gly	Ser	Glu

```

      115      120      125
Pro Arg Glu Gln Glu Asp Leu Gln Glu Asn Asp Glu Glu Gly Ser Glu
      130      135      140
Asp Glu Ala Ser Glu Thr Asp Tyr Ser Ser Ala Asp Glu Asn Ile Leu
145      150      155      160
Thr Lys Ala Asp Thr Leu Lys Val Lys Asp Arg Lys Lys Lys Lys Lys
      165      170      175
Lys Gly Gln Glu Ala Gly Gly Phe Phe Glu Asp Ala Ser Gln Tyr Asp
      180      185      190
Glu Asn Leu Ser Phe Gln Asp Met Asn Leu Ser Arg Pro Leu Leu Lys
      195      200      205
Ala Ile Thr Ala Met Gly Phe Lys Gln Pro Thr Pro Ile Gln Lys Ala
      210      215      220
Cys Ile Pro Val Gly Leu Leu Gly Lys Asp Ile Cys Ala Cys Ala Ala
225      230      235      240
Thr Gly Thr Gly Lys Thr Ala Ala Phe Ala Leu Pro Val Leu Glu Arg
      245      250      255
Leu Ile Tyr Lys Pro Arg Gln Ala Pro Val Thr Arg Val Leu Val Leu
      260      265      270
Val Pro Thr Arg Glu Leu Gly Ile Gln Val His Ser Val Thr Arg Gln
      275      280      285
Leu Ala Gln Phe Cys Asn Ile Thr Thr Cys Leu Ala Val Gly Gly Leu
      290      295      300
Asp Val Lys Ser Gln Glu Ala Ala Leu Arg Ala Ala Pro Asp Ile Leu
305      310      315      320
Ile Ala Thr Pro Gly Arg Leu Ile Asp His Leu His Asn Cys Pro Ser
      325      330      335
Phe His Leu Ser Ser Ile Glu Val Leu Ile Leu Asp Glu Ala Asp Arg
      340      345      350
Met Leu Asp Glu Tyr Phe Glu Glu Gln Met Lys Glu Ile Ile Arg Met
      355      360      365
Cys Ser His His Arg Gln Thr Met Leu Phe Ser Ala Thr Met Thr Asp
      370      375      380
Glu Val Lys Asp Leu Ala Ser Val Ser Leu Lys Asn Pro Val Arg Ile
385      390      395      400
Phe Val Asn Ser Asn Thr Asp Val Ala Pro Phe Leu Arg Gln Glu Phe
      405      410      415
Ile Arg Ile Arg Pro Asn Arg Glu Gly Asp Arg Glu Ala Ile Val Ala
      420      425      430
Ala Leu Leu Thr Arg Thr Phe Thr Asp His Val Met Leu Phe Thr Gln
      435      440      445
Thr Lys Lys Gln Ala His Arg Met His Ile Leu Leu Gly Leu Met Gly
      450      455      460
Leu Gln Val Gly Glu Leu His Gly Asn Leu Ser Gln Thr Gln Arg Leu
465      470      475      480
Glu Ala Leu Arg Arg Phe Lys Asp Glu Gln Ile Asp Ile Leu Val Ala
      485      490      495
Thr Asp Val Ala Ala Arg Gly Leu Asp Ile Glu Gly Val Lys Thr Val
      500      505      510
Ile Asn Phe Thr Met Pro Asn Thr Ile Lys His Tyr Val His Arg Val
      515      520      525
Gly Arg Thr Ala Arg Ala Gly Arg Ala Gly Arg Ser Val Ser Leu Val
      530      535      540
Gly Glu Asp Glu Arg Lys Met Leu Lys Glu Ile Val Lys Ala Ala Lys

```

```

545          550          555          560
Ala Pro Val Lys Ala Arg Ile Leu Pro Gln Asp Val Ile Leu Lys Phe
          565          570          575
Arg Asp Lys Ile Glu Lys Met Glu Lys Asp Val Tyr Ala Val Leu Gln
          580          585          590
Leu Glu Ala Glu Glu Lys Glu Met Gln Gln Ser Glu Ala Gln Ile Asn
          595          600          605
Thr Ala Lys Arg Leu Leu Glu Lys Gly Lys Glu Ala Val Val Gln Glu
          610          615          620
Pro Glu Arg Ser Trp Phe Gln Thr Lys Glu Glu Arg Lys Lys Glu Lys
625          630          635          640
Ile Ala Lys Ala Leu Gln Glu Phe Asp Leu Ala Leu Arg Gly Lys Lys
          645          650          655
Lys Arg Lys Lys Phe Met Lys Asp Ala Lys Lys Lys Gly Glu Met Thr
          660          665          670
Ala Glu Glu Arg Ser Gln Phe Glu Ile Leu Lys Ala Gln Met Phe Ala
          675          680          685
Glu Arg Leu Ala Lys Arg Asn Arg Arg Ala Lys Arg Ala Arg Ala Met
          690          695          700
Pro Glu Glu Glu Pro Val Arg Gly Pro Ala Lys Lys Gln Lys Gln Gly
705          710          715          720
Lys Lys Ser Val Phe Asp Glu Glu Leu Thr Asn Thr Ser Lys Lys Ala
          725          730          735
Leu Lys Gln Tyr Arg Ala Gly Pro Ser Phe Glu Glu Arg Lys Gln Leu
          740          745          750
Gly Leu Pro His Gln Arg Arg Gly Gly Asn Phe Lys Ser Lys Ser Arg
          755          760          765

```

&lt;210&gt; 4425

&lt;211&gt; 5199

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4425

```

naaatccggt gagcggtaag gaaagtgatg ccaagtcttc gaagcctcag tgacaaacgc
60
atagcaagaa cacatccact ccagagatac cttctcgaaa caaaagattt tcctacctgc
120
ttataacttg taaccgaggg aattactaag acttcttgct catttctgag tattgtcttt
180
atatcctgac actatgaatg ctacttggat gcctcttaag tctgttctct ggggaggcag
240
taaggggccc tggagctggc ctcggcctcg gcatcgggag aggctggact tcctgtctct
300
ctgtgctgaa tggctgcgat ggcgcccgtc ctactgacg cagcagctga agcacaccat
360
atccggttca aactggctcc cccatcctct acctgtccc ctggcagtgc cgaaaataac
420
ggcaacgcca acatccttat tgctgccaac ggaacaaaa gaaaagccat tgctgcagag
480
gatcccagcc tagatttccg aaataatcct accaaggaag acttgggaaa gctgcaacca
540
ctgtggcat cttatctctg ctctgatgta acatctgttc cctcaaagga gtctttgaag
600

```

ttgcaagggg tcttcagcaa gcagacagtc cttaaattctc atcctctctt atctcagtc  
660  
tatgaactcc gagctgagct gttggggaga cagccagttt tggagtttcc cttagaaaa  
720  
cttagaacca tgaatacagag tggtcagaca gctctgccac aagcacctgt aaatgggttg  
780  
gctaagaaat tgactaaaag ttcaacacat tctgatcatg acaattccac ttcctcaat  
840  
gggggaaaac gggctctcac ttcattctgt cttcatgggg gtgaaatggg aggatctgaa  
900  
tctggggact tgaagggggg tatgaccaat tgcactcttc cacatagaag cttgatgta  
960  
gaacacacaa ctttgtatag caataatagc actgcaaaca aatcctttgt caattccatg  
1020  
gaacagccgg cacttcaagg aagcagtagg ttatcacctg gtacagactc cagctctaac  
1080  
ttgggggggtg tcaaattgga gggtaaaaag tctccctgt cttccattct tttcagtgt  
1140  
ttagattctg acacaaggat aacagcttta ctgcggcgac aggctgacat tgagagccgt  
1200  
gcccgcagat taaaaagcg cttacaggtt gtgcaagcca agcaggttga gaggcata  
1260  
caacatcagc tgggtggatt tttggagaag actttgagca aactgccaaa cttggaatcc  
1320  
ttgagaccac ggagccagtt gatgctgact cgaaaggctg aagctgcctt gagaaaagct  
1380  
gccagtgaga ccaccacttc agagggactt agcaactttc tgaaaagcaa ttcaatttca  
1440  
gaagaattgg agagatttac agctagtggc atagccaact tgagggtgcag tgaacaggca  
1500  
tttgattcag atgtcactga cagtagttca ggaggggagt ctgatattga agaggaagaa  
1560  
ctgaccagag ctgatccga gcagcgtcat gtaccctga gacgcaggtc agaattggaaa  
1620  
tgggctgcag accgggcagc tattgtcagc cgctggaact ggcttcaggc tcatgtttct  
1680  
gacttggaaat atcgaattcg tcagcaaaca gacatttaca aacagatacg tgctaataag  
1740  
gggttgatag ttcttgggga ggtacctccc ccagagcata caacagactt atttcttcca  
1800  
cttagttctg aggtgaagac agatcatggg actgataaat tgattgagtc tgtttctcag  
1860  
ccattggaaa accatggtgc cctattatt ggtcatattt cagagtcact gtctaccaa  
1920  
tcatgtggag cactcagacc tgtcaatgga gttattaaca ctcttcagcc tgtcttgga  
1980  
gaccacattc caggtgacag ctctgatgct gaggaacaat tacataagaa gcaacgactg  
2040  
aatctcgtct cttcatcatc tgatggcacc tgtgtggcag cccggacacg tcctgtactg  
2100  
agctgtaaga agcggaggct tgttcgaccc aacagcatcg ttcctcttcc caagaagggt  
2160  
caccggaaca gcacaatccg ccctggctgt gatgtgaatc cctcctgcgc actgtgtgg  
2220

tcaggcagca tcaacacccat gcctcccgaa attcactatg aagcccctct gttggaacgt  
2280  
ctttcccagt tggactcttg tgttcaccc tttctagcat ttccagatga tgttcccaca  
2340  
agcctgcatt tccagagcat gctgaaatct cagtggcaga acaagccttt tgacaaaatc  
2400  
aaacctccca aaaagttatc gcttaagcac agagcaccca tgccgggcag tctgccagat  
2460  
tcagctcgta aggacaggca caaattggtc agctccttcc taacaacagc caagctgtcc  
2520  
catcaccaaa cccggcctga caggacccac aggcagcact tagacgatgt gggggccgtg  
2580  
cccattggtg agcgagtgc agcgccaaaa gcagagcgct tgetcaacc accaccacc  
2640  
gtgcatgacc caaaccacag caaaatgaga ttgcgagacc attcatctga gagaagtga  
2700  
gtgttgaagc atcacacaga catgagcagt tcgagctact tggcagccac ccaccatcct  
2760  
ccacacagtc ccttgggtgc acagctctcc acctcctcag attcccctgc acccgccagc  
2820  
tctagctcac aggttacagc cagcacatcg cagcagccag taaggaggag aaggggagag  
2880  
agctcatttg atattaacaa cattgtcacc ccaatgtctg ttgctgcaac aactcgcgta  
2940  
gagaaaactgc aatacaagga aatccttacg cccagctggc gggagggtga tcttcagtct  
3000  
ctgaagggga gtcctgatga ggagaatgaa gagattgagg acctatccga cgcagccttc  
3060  
gccgccctgc atgccaaatg tgaggagatg gagagggcac ggtggctgtg gaccacgagt  
3120  
gtgccacccc agcggcgggg cagcaggtcc tacaggtcat cagacggccg gacaaccccc  
3180  
cagctgggca gtgccaaccc ctccaccccc cagcctgcct cccctgatgt cagcagtagc  
3240  
cactctttgt cagaatactc ccatggtcag tcccctagga gcccattag cccggaactg  
3300  
cactcagcac ccctcacccc tgtggctcgg gacactctgc gacacttagc cagtgaggat  
3360  
accggttgtt ccacaccaga gctggggctg gatgaacagt ctgtccagcc ctgggagcgg  
3420  
cggaccttcc ccctggcgca cagtccccag gcggagtgtg aggaccagct ggatgcacag  
3480  
gagcgagcag cccgctgcac tcgacgcacc tcaggcagca agactnggcc gggagacaga  
3540  
ggcagcgccc acctcgctc ccattgtccc cctcaagagt cggcatctgg tggcagcagc  
3600  
cacagctcag cgcccgactc acagatgagc gggagacagc catctaaaca gactcactaa  
3660  
ctattggcat taaagttca gaaatctctg cgtttgatat tcaaacatca tatgccggaa  
3720  
attttcacag tttttagtga acttaaggaa tttagatcct actttggtat tttttttct  
3780  
tgttttaatt tttgtttgt tttgtttcc atgttttctt gtcacacacc tgagcacttc  
3840

ctcccgttgg caaacagaag ttcaggatga gaccctgctg gcctggctcct ggcacatcct  
3900  
ctgcactgtt gaatcactgg acttactgat cttagatgac caccocctcc ctcacacctg  
3960  
tgggcagggc agaacagcct ggcgggctac agtttagcat ggcttcttg agctaggggtg  
4020  
gaatggggca ggggtgctctg gactcttacc cctcccccctc ccatctgttg cttggctctg  
4080  
ctgtggccct cctggctggg tccccttggg ttttcgtgct ggaacatccc caccagagcc  
4140  
tctctgccat aactgccagc tgctctcccc gagtgctcag ctggcagaac acctttcctt  
4200  
tctcaccag aacttaagag actgattttt tgtttcatct gcatttggtc ttctctgttt  
4260  
tgactctttc actgcagtaa cctggctgtg gctgctcagg tccccctcct catgccccct  
4320  
ggtacccttc cctgtctgct ctcccatgcc atgtacacac ccacaaccg tccttccact  
4380  
tggaatattt ttaccaccta tcctgatctt tgaaggtagg gttaggacta cttaacctct  
4440  
attcccactc ccctgcaaac tgggggttgt gggaagttag cagccatctc cctgtgtgat  
4500  
ttttttttt tttttccctc tgattcactt tgccatgttt ccttcacatc cagatccctg  
4560  
tcggtgttag ttccactctt ggtctttcac gctccccttg cctgtggaac attgtctggt  
4620  
cctagctgtg gttcccattg tcccccttc acccttctct gttaaccttg tgctgtctc  
4680  
ctgtatgatc acatcaccaa aaagggggag gggggagaag actctttttt tttggccatt  
4740  
ttgtaatcgt ataaaaatag tagacaactg cttaatggtt ggggtttttt cacaattttc  
4800  
aacattagtg attttttttt ctgtttgcaa gttaaagggt ttgtcattgt ttctttaaaa  
4860  
aaaaaataca ataatgcacc atatccctat gcataaagtg cttcttctat ttataagggt  
4920  
gaaaattctg aataaccctt ttagcattga aaaaaaaaaa aaaaacaaaa aatggaaaaa  
4980  
aaaaaccttg tattttgtaa atattttctt ttctgcttt ggagctgtgt aatggcagcg  
5040  
aaacatgtag ctgtctttgt tctatagaaa tgcttttctt cagagaagct gatctttgtt  
5100  
aatgtcttga ttctgttcgc aaagcacaga ctagtgtta aaaaaaaaaa agaaggaaaa  
5160  
attgaaaaaa ataaaaaaaa aagttacaga aaaaaaaaaa  
5199

&lt;210&gt; 4426

&lt;211&gt; 1116

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4426

Met Ala Ala Met Ala Pro Ala Leu Thr Asp Ala Ala Ala Glu Ala His

```

1           5           10           15
His Ile Arg Phe Lys Leu Ala Pro Pro Ser Ser Thr Leu Ser Pro Gly
20           25           30
Ser Ala Glu Asn Asn Gly Asn Ala Asn Ile Leu Ile Ala Ala Asn Gly
35           40           45
Thr Lys Arg Lys Ala Ile Ala Ala Glu Asp Pro Ser Leu Asp Phe Arg
50           55           60
Asn Asn Pro Thr Lys Glu Asp Leu Gly Lys Leu Gln Pro Leu Val Ala
65           70           75           80
Ser Tyr Leu Cys Ser Asp Val Thr Ser Val Pro Ser Lys Glu Ser Leu
85           90           95
Lys Leu Gln Gly Val Phe Ser Lys Gln Thr Val Leu Lys Ser His Pro
100          105          110
Leu Leu Ser Gln Ser Tyr Glu Leu Arg Ala Glu Leu Leu Gly Arg Gln
115          120          125
Pro Val Leu Glu Phe Ser Leu Glu Asn Leu Arg Thr Met Asn Thr Ser
130          135          140
Gly Gln Thr Ala Leu Pro Gln Ala Pro Val Asn Gly Leu Ala Lys Lys
145          150          155          160
Leu Thr Lys Ser Ser Thr His Ser Asp His Asp Asn Ser Thr Ser Leu
165          170          175
Asn Gly Gly Lys Arg Ala Leu Thr Ser Ser Ala Leu His Gly Gly Glu
180          185          190
Met Gly Gly Ser Glu Ser Gly Asp Leu Lys Gly Gly Met Thr Asn Cys
195          200          205
Thr Leu Pro His Arg Ser Leu Asp Val Glu His Thr Thr Leu Tyr Ser
210          215          220
Asn Asn Ser Thr Ala Asn Lys Ser Phe Val Asn Ser Met Glu Gln Pro
225          230          235          240
Ala Leu Gln Gly Ser Ser Arg Leu Ser Pro Gly Thr Asp Ser Ser Ser
245          250          255
Asn Leu Gly Gly Val Lys Leu Glu Gly Lys Lys Ser Pro Leu Ser Ser
260          265          270
Ile Leu Phe Ser Ala Leu Asp Ser Asp Thr Arg Ile Thr Ala Leu Leu
275          280          285
Arg Arg Gln Ala Asp Ile Glu Ser Arg Ala Arg Arg Leu Gln Lys Arg
290          295          300
Leu Gln Val Val Gln Ala Lys Gln Val Glu Arg His Ile Gln His Gln
305          310          315          320
Leu Gly Gly Phe Leu Glu Lys Thr Leu Ser Lys Leu Pro Asn Leu Glu
325          330          335
Ser Leu Arg Pro Arg Ser Gln Leu Met Leu Thr Arg Lys Ala Glu Ala
340          345          350
Ala Leu Arg Lys Ala Ala Ser Glu Thr Thr Thr Ser Glu Gly Leu Ser
355          360          365
Asn Phe Leu Lys Ser Asn Ser Ile Ser Glu Glu Leu Glu Arg Phe Thr
370          375          380
Ala Ser Gly Ile Ala Asn Leu Arg Cys Ser Glu Gln Ala Phe Asp Ser
385          390          395          400
Asp Val Thr Asp Ser Ser Ser Gly Gly Glu Ser Asp Ile Glu Glu Glu
405          410          415
Glu Leu Thr Arg Ala Asp Pro Glu Gln Arg His Val Pro Leu Arg Arg
420          425          430
Arg Ser Glu Trp Lys Trp Ala Ala Asp Arg Ala Ala Ile Val Ser Arg

```



435 440 445  
 Trp Asn Trp Leu Gln Ala His Val Ser Asp Leu Glu Tyr Arg Ile Arg  
 450 455 460  
 Gln Gln Thr Asp Ile Tyr Lys Gln Ile Arg Ala Asn Lys Gly Leu Ile  
 465 470 475 480  
 Val Leu Gly Glu Val Pro Pro Pro Glu His Thr Thr Asp Leu Phe Leu  
 485 490 495  
 Pro Leu Ser Ser Glu Val Lys Thr Asp His Gly Thr Asp Lys Leu Ile  
 500 505 510  
 Glu Ser Val Ser Gln Pro Leu Glu Asn His Gly Ala Pro Ile Ile Gly  
 515 520 525  
 His Ile Ser Glu Ser Leu Ser Thr Lys Ser Cys Gly Ala Leu Arg Pro  
 530 535 540  
 Val Asn Gly Val Ile Asn Thr Leu Gln Pro Val Leu Ala Asp His Ile  
 545 550 555 560  
 Pro Gly Asp Ser Ser Asp Ala Glu Glu Gln Leu His Lys Lys Gln Arg  
 565 570 575  
 Leu Asn Leu Val Ser Ser Ser Ser Asp Gly Thr Cys Val Ala Ala Arg  
 580 585 590  
 Thr Arg Pro Val Leu Ser Cys Lys Lys Arg Arg Leu Val Arg Pro Asn  
 595 600 605  
 Ser Ile Val Pro Leu Ser Lys Lys Val His Arg Asn Ser Thr Ile Arg  
 610 615 620  
 Pro Gly Cys Asp Val Asn Pro Ser Cys Ala Leu Cys Gly Ser Gly Ser  
 625 630 635 640  
 Ile Asn Thr Met Pro Pro Glu Ile His Tyr Glu Ala Pro Leu Leu Glu  
 645 650 655  
 Arg Leu Ser Gln Leu Asp Ser Cys Val His Pro Val Leu Ala Phe Pro  
 660 665 670  
 Asp Asp Val Pro Thr Ser Leu His Phe Gln Ser Met Leu Lys Ser Gln  
 675 680 685  
 Trp Gln Asn Lys Pro Phe Asp Lys Ile Lys Pro Pro Lys Lys Leu Ser  
 690 695 700  
 Leu Lys His Arg Ala Pro Met Pro Gly Ser Leu Pro Asp Ser Ala Arg  
 705 710 715 720  
 Lys Asp Arg His Lys Leu Val Ser Ser Phe Leu Thr Thr Ala Lys Leu  
 725 730 735  
 Ser His His Gln Thr Arg Pro Asp Arg Thr His Arg Gln His Leu Asp  
 740 745 750  
 Asp Val Gly Ala Val Pro Met Val Glu Arg Val Thr Ala Pro Lys Ala  
 755 760 765  
 Glu Arg Leu Leu Asn Pro Pro Pro Pro Val His Asp Pro Asn His Ser  
 770 775 780  
 Lys Met Arg Leu Arg Asp His Ser Ser Glu Arg Ser Glu Val Leu Lys  
 785 790 795 800  
 His His Thr Asp Met Ser Ser Ser Ser Tyr Leu Ala Ala Thr His His  
 805 810 815  
 Pro Pro His Ser Pro Leu Val Arg Gln Leu Ser Thr Ser Ser Asp Ser  
 820 825 830  
 Pro Ala Pro Ala Ser Ser Ser Ser Gln Val Thr Ala Ser Thr Ser Gln  
 835 840 845  
 Gln Pro Val Arg Arg Arg Arg Gly Glu Ser Ser Phe Asp Ile Asn Asn  
 850 855 860  
 Ile Val Ile Pro Met Ser Val Ala Ala Thr Thr Arg Val Glu Lys Leu

865                      870                      875                      880  
 Gln Tyr Lys Glu Ile Leu Thr Pro Ser Trp Arg Glu Val Asp Leu Gln  
                                  885                      890                      895  
 Ser Leu Lys Gly Ser Pro Asp Glu Glu Asn Glu Glu Ile Glu Asp Leu  
                                  900                      905                      910  
 Ser Asp Ala Ala Phe Ala Ala Leu His Ala Lys Cys Glu Glu Met Glu  
                                  915                      920                      925  
 Arg Ala Arg Trp Leu Trp Thr Thr Ser Val Pro Pro Gln Arg Arg Gly  
                                  930                      935                      940  
 Ser Arg Ser Tyr Arg Ser Ser Asp Gly Arg Thr Thr Pro Gln Leu Gly  
 945                      950                      955                      960  
 Ser Ala Asn Pro Ser Thr Pro Gln Pro Ala Ser Pro Asp Val Ser Ser  
                                  965                      970                      975  
 Ser His Ser Leu Ser Glu Tyr Ser His Gly Gln Ser Pro Arg Ser Pro  
                                  980                      985                      990  
 Ile Ser Pro Glu Leu His Ser Ala Pro Leu Thr Pro Val Ala Arg Asp  
                                  995                      1000                      1005  
 Thr Leu Arg His Leu Ala Ser Glu Asp Thr Arg Cys Ser Thr Pro Glu  
                                  1010                      1015                      1020  
 Leu Gly Leu Asp Glu Gln Ser Val Gln Pro Trp Glu Arg Arg Thr Phe  
 1025                      1030                      1035                      1040  
 Pro Leu Ala His Ser Pro Gln Ala Glu Cys Glu Asp Gln Leu Asp Ala  
                                  1045                      1050                      1055  
 Gln Glu Arg Ala Ala Arg Cys Thr Arg Arg Thr Ser Gly Ser Lys Thr  
                                  1060                      1065                      1070  
 Xaa Pro Gly Asp Arg Gly Ser Ala His Leu Ala Ser His Cys Pro Pro  
                                  1075                      1080                      1085  
 Gln Glu Ser Ala Ser Gly Gly Ser Ser His Ser Ser Ala Pro Asp Ser  
                                  1090                      1095                      1100  
 Gln Met Ser Gly Arg Gln Pro Ser Lys Gln Thr His  
 1105                      1110                      1115

&lt;210&gt; 4427

&lt;211&gt; 4474

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4427

nntgtggtca gggaatccag cttcttcggg tcaactcctt cctggaggat tcggtatgact  
 60  
 tcagacatca tgggcgcaag acacctggta gtatagaagc caggtccatc cttaaccaca  
 120  
 atgatgacct tcccctgctt gagaccaact gctacagctg aagcactggt gtctttggaa  
 180  
 gttttctcgg tcgtgataat ctccagcagc tgcattctgt ccacgggaga gaagtagtgc  
 240  
 atgccaatca ctttctcagg tcttttgctg acagcagcga tttcactgat tgggagagca  
 300  
 gatgtgttac tggcaaagat acagtgatct ggaatcaccg cttctacttc ctttagcact  
 360  
 ctgtgcttaa gactaaggtc ctcaaacaca gtttcaatca ccatgtcggc cttttcaaaa  
 420  
 ccttggtaat caagctgcc agtcaagttg ctgaagatgg aatccctttc aaatgatgtt  
 480

agagctttct tcttcacttt gtcattcaat cctttgaaca cttgttgctg tcttcggcct  
540  
agcgcagtga ggggtggcatc tttaagtata gtcttttagcc ccttatccac ggagacttgg  
600  
gcgatgcctg ctcccatcag ccctgcacca agaatagcca gatgcttaac atccttctgt  
660  
cttttggtgc tattctgtat tggcatgaaa tggcaacctc aagtcctcct ccagggcagg  
720  
atccattgat ggcagccaca ataggctttg tggacttttc aagtttctca actattctct  
780  
gtgcttcttg tgatagctgt gttacttctt gaagggtctt gcaagcggct aacatgttga  
840  
tatcagcacc tgcaataaag cagcctggct ttgatgagat aaggacggca cttctgattt  
900  
gatcactagc ccagatttca ttcataactt ctgagaactc tgaatgtagc tcttcagctc  
960  
aagatgggtg cctgccgggc gattggcatc ctccagcgtt tttctgcctt caggatcctc  
1020  
cgctcccgag gttatatatg ccgcaatttt acagggtctt ctgctttgct gaccagaacc  
1080  
catattaact atggagtcaa aggggatgtg gcagttgttc gaattaactc tccaattca  
1140  
aaggtaaata cactgagtaa agagctacat tcagagttct cagaagttat gaatgaaac  
1200  
tgggctagt atcaaatac aagtgccgtc cttatctcat caaagccagg ctgctttatt  
1260  
gcaggtgctg atatcaacat gttagccgtc tgcaagaccc ttcaagaagt aacacagcta  
1320  
tcacaagaag cacagagaat agttgagaaa cttgaaaagt ccacaaagcc tatttgggtc  
1380  
gccatcaatg gatcctgcct gggaggagga cttgaggttg ccatttcatg ccaatacaga  
1440  
atagcaacaa aagacagaaa aacagtatta ggtacccttg aagttttgct gggggcctta  
1500  
ccaggagcag gaggcacaca aaggctgccc aaaatgggtg gtgtgcctgc tgctttggac  
1560  
atgatgtga ctggtagaag cattcgtgca gacagggcaa agaaaatggg actggttgac  
1620  
caactgggtg aaccctggg accaggacta aaacctccag aggaacggac aatagaatac  
1680  
ctagaagaag ttgcaattac ttttgccaaa ggactagctg ataagaagat ctctccaaag  
1740  
agagacaagg gattggtgga aaaattgaca gcgtatgcca tgactattcc atttgtcagg  
1800  
caacaggttt acaaaaaagt ggaagaaaaa gtgcgaaagc agactaaagg cctttatcct  
1860  
gcacctctga aaataattga tgtggtaaag actggaattg agcaagggag tgatgccggt  
1920  
tatctctgtg aatctcagaa atttggagag cttgtaatga ccaaagaatc aaaggccttg  
1980  
atgggactct accatggtca ggtcctgtgc aagaagaata aatttggagc ccacagaag  
2040  
gatgttaagc atctggctat tcttggtgca gggctgatgg gagcaggcat cgcccaagtc  
2100

tccgtggata aggggctaaa gactatactt aaagatgcca ccctcactgc gctagaccga  
2160  
ggacagcaac aagtgttcaa aggattgaat gacaaagtga agaagaaagc tctaacatca  
2220  
tttgaaggagg attccatctt cagcaacttg actgggcagc ttgattacca aggttttgaa  
2280  
aaggccgaca tggtgattga agctgtgttt gaggacctta gtcttaagca cagagtgcta  
2340  
aaggaagtag aagcgggtgat tccagatcac tgtatctttg ccagtaacac atctgctctc  
2400  
ccaatcagtg aaatcgctgc tgtcagcaaa agacctgaga aggtgattgg catgcactac  
2460  
ttctctcccg tggacaagat gcagctgctg gagattatca cgaccgagaa aacttccaaa  
2520  
gacaccagtg cttcagctgt agcagttggt ctcaagcagg ggaaggcat cattgtggtt  
2580  
aaggatggac ctggcttcta tactaccagg tgtcttgccg ccatgatgtc tgaagtcac  
2640  
cgaatcctcc aggaaggagt tgacctgaag aagctggatt ccctgaccac aagctttggc  
2700  
tttctgtgg gtgccccac actggtggat gaagttggtg tggatgtagc gaaacatgtg  
2760  
gcggaagatc tgggcaaagt ctttggggag cggtttggag gtggaaaccc agaactgctg  
2820  
acacagatgg tgtccaaggg cttcctaggt cgtaaactctg ggaagggctt ttacatctat  
2880  
caggaggggtg tgaagaggaa ggatttgaat tctgacatgg atagtatttt agcgagtctg  
2940  
aagctgcctc ctaagtctga agtctcatca gacgaagaca tccagttccg cctggtgaca  
3000  
agatttgtga atgaggcagt catgtgcctg caagagggga tcttggccac acctgcagag  
3060  
ggagacatcg gagccgtctt tgggcttggc tccccgcctt gtctgggagg gcctttccgc  
3120  
tttgtggatc tgtatggcg cagaagata gtggaccggc tcaagaaata tgaagctgcc  
3180  
tatggaaaac agttcacccc atgccagctg ctagctgacc atgctaacag ccctaacaag  
3240  
aagttctacc agtgagcagg cctcatgcct cgctcagtca gttttcagat aagccggtgc  
3300  
aagaccgggg tttggtggtg acggacctca aagctgagag tgtggttctt gagcatcgca  
3360  
gctactgctc ggcaaaggcc cgggacagac actttgctgg ggatgtactg ggctatgtca  
3420  
ctccatggaa cagccatggc tacgatgtca ccaaggtctt tgggagcaag ttcacacaga  
3480  
tctcaccgt ctggctgcag ctgaagagac gtggccgtga gatgtttgag gtcacgggcc  
3540  
tccacgacgt ggaccagggg tggatgcgag ctgtcaggaa gcatgccaa ggcctgcaca  
3600  
tagtgctctg gctcctgttt gaggactgga cttacgatga tttccggaac gtcttagaca  
3660  
gtgaggatga gatagaggag ctgagcaaga ccgtggtcca ggtggcaaag aaccagcatt  
3720

tcgatggctt cgtgggtggag gtctggaacc agctgctaag ccagaagcgc gtgggectca  
 3780  
 tccacatgct caccacttg gccgaggctc tgcaccaggc ccggctgctg gccctcctgg  
 3840  
 tcatcccgcc tgccatcacc cccgggaccg accagctggg catgttcacg cacaaggagt  
 3900  
 ttgagcagct ggccccctg ctggatgggt tcagcctcat gacctacgac tactctacag  
 3960  
 cgcacagcc tggccctaata gcacccctgt cctgggttcg agcctgcgtc caggtcctgg  
 4020  
 acccgaagtc caagtggcga agcaaaatcc tcctggggct caacttctat ggtatggact  
 4080  
 acgcgacctc caaggatgcc cgtgagcctg ttgtcggggc caggtacatc cagacactga  
 4140  
 aggaccacag gccccggatg gtgtgggaca gccaggcctc agagcacttc ttcgagtaca  
 4200  
 agaagagccg cagtgggagg cacgtcgtct tctacccaac cctgaagtcc ctgcaggtgc  
 4260  
 ggctggagct ggccccgggag ctgggcgttg gggctctctat ctgggagctg ggccagggcc  
 4320  
 tggactactt ctacgacctg ctctaggtgg gcattgcggc ctccgcggtg gacgtgttct  
 4380  
 tttctaagcc atggagtgag tgagcaggtg tgaaatacag gcctccactc cgtttctgtg  
 4440  
 gaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa  
 4474

<210> 4428  
 <211> 763  
 <212> PRT  
 <213> Homo sapiens

<400> 4428  
 Met Val Ala Cys Arg Ala Ile Gly Ile Leu Ser Arg Phe Ser Ala Phe  
 1 5 10 15  
 Arg Ile Leu Arg Ser Arg Gly Tyr Ile Cys Arg Asn Phe Thr Gly Ser  
 20 25 30  
 Ser Ala Leu Leu Thr Arg Thr His Ile Asn Tyr Gly Val Lys Gly Asp  
 35 40 45  
 Val Ala Val Val Arg Ile Asn Ser Pro Asn Ser Lys Val Asn Thr Leu  
 50 55 60  
 Ser Lys Glu Leu His Ser Glu Phe Ser Glu Val Met Asn Glu Ile Trp  
 65 70 75 80  
 Ala Ser Asp Gln Ile Arg Ser Ala Val Leu Ile Ser Ser Lys Pro Gly  
 85 90 95  
 Cys Phe Ile Ala Gly Ala Asp Ile Asn Met Leu Ala Ala Cys Lys Thr  
 100 105 110  
 Leu Gln Glu Val Thr Gln Leu Ser Gln Glu Ala Gln Arg Ile Val Glu  
 115 120 125  
 Lys Leu Glu Lys Ser Thr Lys Pro Ile Val Ala Ala Ile Asn Gly Ser  
 130 135 140  
 Cys Leu Gly Gly Gly Leu Glu Val Ala Ile Ser Cys Gln Tyr Arg Ile  
 145 150 155 160  
 Ala Thr Lys Asp Arg Lys Thr Val Leu Gly Thr Pro Glu Val Leu Leu

3622

595	600	605
Glu Arg Phe Gly Gly Gly	Asn Pro Glu Leu Leu Thr	Gln Met Val Ser
610	615	620
Lys Gly Phe Leu Gly Arg	Lys Ser Gly Lys Gly Phe	Tyr Ile Tyr Gln
625	630	635
Glu Gly Val Lys Arg Lys	Asp Leu Asn Ser Asp Met	Asp Ser Ile Leu
645	650	655
Ala Ser Leu Lys Leu Pro	Pro Lys Ser Glu Val Ser	Ser Ser Asp Glu Asp
660	665	670
Ile Gln Phe Arg Leu Val	Thr Arg Phe Val Asn Glu	Ala Val Met Cys
675	680	685
Leu Gln Glu Gly Ile Leu	Ala Thr Pro Ala Glu Gly	Asp Ile Gly Ala
690	695	700
Val Phe Gly Leu Gly Phe	Pro Pro Cys Leu Gly Gly	Pro Phe Arg Phe
705	710	715
Val Asp Leu Tyr Gly Ala	Gln Lys Ile Val Asp Arg	Leu Lys Lys Tyr
725	730	735
Glu Ala Ala Tyr Gly Lys	Gln Phe Thr Pro Cys Gln	Leu Leu Ala Asp
740	745	750
His Ala Asn Ser Pro Asn	Lys Lys Phe Tyr Gln	
755	760	

&lt;210&gt; 4429

&lt;211&gt; 981

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4429

```

agatctccag cagggtggca aaactgggca cctctctctc ccagcaagag tgagagccct
60
aatccaggca tcaactgccc ctgattttat ttcattttca cacactctgt ttaggagaca
120
ctgcttgctc caactggctc catctctccg ttaccggtga ggcaggcaca gtgctgcagt
180
ggcagaatgg aagtaaccag gctgacttgc tctcagccag acacgacctc ttctctgagg
240
agggtgatgc caataaatgg aactccaata ggtaggcttc gctctgccct tccacaagtg
300
aacacacgcc gtgagtcctt aaatcgccag gctccgcagc ctgcagaaa gcctagtctt
360
cagacggtag gtatccatt catcccttgg catcggaac caaaggaat gcagacagat
420
cccggtcgtg cactacatt ccaaaccctg gcacgcacgc gaaggcttgg ggcgccccgg
480
cgcgcccttc ctccgaggcc tccaccaccc gcggactcac cactatgcga gctgaaccac
540
ctgggtgcga tgtgcagagg tagagcatcc gccagcaggg ttctgggagg cccggttacc
600
gcttcccgtt tttatggtng accgcgcggt gtctcttgggt aaccattgcc atgggcatag
660
gtggagtcgg acgcagaccc tccgcgcggt ggcgcacta ccaccctgag gtgtccaaag
720
ccgccagcgt catcaaccag gccctgtcca tgcctgaggt cagcatcgcg cacaccaacg
780

```

acacgccctt ctctctctct ctctctctct ctctctctct ctcccccgtc tnnccctccc  
 840  
 gagttctccg gctctcgccg ccggcggggc cggcgggcga acgaacgagc gagcgaacga  
 900  
 acggggcacgc gggccccgcc cgcgcacgcg ccgcgtcgcg gtgggggggt ggggtgtgcg  
 960  
 aggggaagcgc gcggcgggcg c  
 981

<210> 4430

<211> 151

<212> PRT

<213> Homo sapiens

<400> 4430

Met	Glu	Val	Pro	Arg	Leu	Thr	Cys	Ser	Gln	Pro	Asp	Thr	Thr	Ser	Ser
1					5				10					15	
Leu	Arg	Arg	Val	Met	Pro	Ile	Asn	Gly	Thr	Pro	Ile	Gly	Arg	Leu	Arg
			20					25					30		
Ser	Ala	Leu	Pro	Gln	Val	Asn	Thr	Arg	Arg	Glu	Ser	Leu	Asn	Arg	Gln
			35				40					45			
Ala	Pro	Gln	Pro	Arg	Arg	Lys	Pro	Ser	Phe	Gln	Thr	Val	Gly	Ile	Pro
			50				55				60				
Phe	Ile	Pro	Trp	His	Arg	Glu	Pro	Lys	Gly	Met	Gln	Thr	Asp	Pro	Gly
65					70				75					80	
Arg	Ala	Leu	His	Ser	Gln	Thr	Leu	Ala	Arg	Thr	Arg	Arg	Leu	Gly	Ala
			85						90					95	
Pro	Arg	Arg	Ala	Leu	Pro	Pro	Arg	Pro	Pro	Pro	Pro	Ala	Asp	Ser	Pro
			100					105					110		
Leu	Cys	Glu	Leu	Asn	His	Leu	Gly	Ala	Met	Cys	Arg	Gly	Arg	Ala	Ser
			115				120					125			
Ala	Ser	Glu	Val	Leu	Gly	Gly	Pro	Val	Thr	Ala	Ser	Arg	Phe	Tyr	Gly
			130			135						140			
Xaa	Pro	Pro	Pro	Val	Ser	Trp									
145						150									

<210> 4431

<211> 507

<212> DNA

<213> Homo sapiens

<400> 4431

ggtggcgagt tcagggaggc tttcaaggag gccagcaagg tgcctttctg caagttccac  
 60  
 ctgggtgacc gacccatccc cgtcaccttc aagagggcca tcgcagcgct ctccttctgg  
 120  
 cagaaggcca ggctggcttg gggcctgtgc ttcctgtcag accccatcag gtagggctgc  
 180  
 cccggggacc ctggccggcc tgcaggggtg tctgtgggag gctccaggcc ctcctgtgca  
 240  
 ggtccaagcg cagccaatcc tcaactcaagg ccttcctctg cctttccttc cgccacaaat  
 300  
 cccaacaaaa cgtgctgtgg tccctgcccg gtgtccacag tgccagcccc accctcccag  
 360



cccgttgccc atccctgcgg ggctgcagcc atccctctcc acagcaagga tgacgtggaa  
 420  
 cgctgcaagc agaaggccta ctggagcaga tgatggccga gatgattggc gagttcccag  
 480  
 acctgcaccg caccatcggt tttggag  
 507

<210> 4432  
 <211> 57  
 <212> PRT  
 <213> Homo sapiens

<400> 4432  
 Gly Gly Glu Phe Arg Glu Ala Phe Lys Glu Ala Ser Lys Val Pro Phe  
   1                  5                  10                  15  
 Cys Lys Phe His Leu Gly Asp Arg Pro Ile Pro Val Thr Phe Lys Arg  
           20                  25                  30  
 Ala Ile Ala Ala Leu Ser Phe Trp Gln Lys Val Arg Leu Ala Trp Gly  
           35                  40                  45  
 Leu Cys Phe Leu Ser Asp Pro Ile Arg  
       50                  55

<210> 4433  
 <211> 447  
 <212> DNA  
 <213> Homo sapiens

<400> 4433  
 ntgtacaaca cctcgtcgcc gagggagatg gtggcccagt tcctcctcgt ggacggcaac  
 60  
 gtgaccaaca tcaccaccgt cagcctctgg gaagaattct cctccagcga cctcgcagat  
 120  
 ctccgcttcc tggacatgag ccagaaccag ttccagtacc tgccagacgg ctctctgagg  
 180  
 aaaatgcctt ccctctccca cctgaacctc caccagaatt gcctgatgac gcttcacatt  
 240  
 cgggagcacg agccccccgg agcgctcacc gagctggacc tgagccacaa ccagctgtcg  
 300  
 gagctgcacc tggctccggg gctggccagc tgcctgggca gcctgcgctt gttcaacctg  
 360  
 agctccaacc agctcctggg cgtccccctt ggcctcttcg ccaatgctag gaacatcact  
 420  
 acacttgaca tgagccacaa tcagatc  
 447

<210> 4434  
 <211> 149  
 <212> PRT  
 <213> Homo sapiens

<400> 4434  
 Xaa Tyr Asn Thr Ser Ser Pro Arg Glu Met Val Ala Gln Phe Leu Leu  
   1                  5                  10                  15  
 Val Asp Gly Asn Val Thr Asn Ile Thr Thr Val Ser Leu Trp Glu Glu

	20		25		30										
Phe	Ser	Ser	Ser	Asp	Leu	Ala	Asp	Leu	Arg	Phe	Leu	Asp	Met	Ser	Gln
	35						40					45			
Asn	Gln	Phe	Gln	Tyr	Leu	Pro	Asp	Gly	Phe	Leu	Arg	Lys	Met	Pro	Ser
	50					55					60				
Leu	Ser	His	Leu	Asn	Leu	His	Gln	Asn	Cys	Leu	Met	Thr	Leu	His	Ile
65					70					75				80	
Arg	Glu	His	Glu	Pro	Pro	Gly	Ala	Leu	Thr	Glu	Leu	Asp	Leu	Ser	His
			85						90					95	
Asn	Gln	Leu	Ser	Glu	Leu	His	Leu	Ala	Pro	Gly	Leu	Ala	Ser	Cys	Leu
		100						105					110		
Gly	Ser	Leu	Arg	Leu	Phe	Asn	Leu	Ser	Ser	Asn	Gln	Leu	Leu	Gly	Val
	115					120					125				
Pro	Pro	Gly	Leu	Phe	Ala	Asn	Ala	Arg	Asn	Ile	Thr	Thr	Leu	Asp	Met
	130					135					140				
Ser	His	Asn	Gln	Ile											
145															

&lt;210&gt; 4435

&lt;211&gt; 783

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4435

```

ntcgcgaggg atgaggttcg gaatgttttc cgggagctgc agatcatgca agggctggag
60
cacccttcg tggtaaatct gtggtactcc ttccaggatg aggaggacat gttcatggtg
120
gtggacctgc tcctgggagg cgacctgcgc taccatctgc agcagaatgt gcatttcaca
180
gaggggactg tgaaactcta catctgtgag ctggcactgg ccctggagta tcttcagagg
240
taccacatca tccacagaga catcaagcca gacaatatcc tgctggatga acacggacat
300
gttcacatta cagacttcaa catagcgacg gtagtgaaag gagcagaaag ggcttcctcc
360
atggctggca ccaagcccta catggctcca gaagtattcc aggtgtacat ggacagaggc
420
cccggatact cgtaccctgt cgactggtgg tccttgggca tcacagccta tgagctgctg
480
cggggctgga ggccgtacga aatccactcg gtcacgccca tcgatgaaat cctcaacatg
540
ttcaagggtg agcgtgtcca ctactcctcc acgtgggtgca aggggatggt ggccctgcta
600
aggaagctcc tgaccaagga tcctgagagc cgcgtgtcca gccttcatga catacagagc
660
gtgccctact tggccgacat gaactgggac gcggtgttca agaaggcact gatgcccggc
720
tttgtgccca ataaaggagg gttgaactgc gatccacat ttgagcttga agagatgatt
780
cta
783

```

&lt;210&gt; 4436

<211> 261  
 <212> PRT  
 <213> Homo sapiens

<400> 4436  
 Xaa Ala Arg Asp Glu Val Arg Asn Val Phe Arg Glu Leu Gln Ile Met  
 1 5 10 15  
 Gln Gly Leu Glu His Pro Phe Val Val Asn Leu Trp Tyr Ser Phe Gln  
 20 25 30  
 Asp Glu Glu Asp Met Phe Met Val Val Asp Leu Leu Leu Gly Gly Asp  
 35 40 45  
 Leu Arg Tyr His Leu Gln Gln Asn Val His Phe Thr Glu Gly Thr Val  
 50 55 60  
 Lys Leu Tyr Ile Cys Glu Leu Ala Leu Ala Leu Glu Tyr Leu Gln Arg  
 65 70 75 80  
 Tyr His Ile Ile His Arg Asp Ile Lys Pro Asp Asn Ile Leu Leu Asp  
 85 90 95  
 Glu His Gly His Val His Ile Thr Asp Phe Asn Ile Ala Thr Val Val  
 100 105 110  
 Lys Gly Ala Glu Arg Ala Ser Ser Met Ala Gly Thr Lys Pro Tyr Met  
 115 120 125  
 Ala Pro Glu Val Phe Gln Val Tyr Met Asp Arg Gly Pro Gly Tyr Ser  
 130 135 140  
 Tyr Pro Val Asp Trp Trp Ser Leu Gly Ile Thr Ala Tyr Glu Leu Leu  
 145 150 155 160  
 Arg Gly Trp Arg Pro Tyr Glu Ile His Ser Val Thr Pro Ile Asp Glu  
 165 170 175  
 Ile Leu Asn Met Phe Lys Val Glu Arg Val His Tyr Ser Ser Thr Trp  
 180 185 190  
 Cys Lys Gly Met Val Ala Leu Leu Arg Lys Leu Leu Thr Lys Asp Pro  
 195 200 205  
 Glu Ser Arg Val Ser Ser Leu His Asp Ile Gln Ser Val Pro Tyr Leu  
 210 215 220  
 Ala Asp Met Asn Trp Asp Ala Val Phe Lys Lys Ala Leu Met Pro Gly  
 225 230 235 240  
 Phe Val Pro Asn Lys Gly Arg Leu Asn Cys Asp Pro Thr Phe Glu Leu  
 245 250 255  
 Glu Glu Met Ile Leu  
 260

<210> 4437  
 <211> 620  
 <212> DNA  
 <213> Homo sapiens

<400> 4437  
 nnctgcaggg tgtacgtggt ggggacagcc cacttcagcg acgacagcaa gagggacgtt  
 60  
 gtgaagacca tccgggaggt gcagcctgac gtggtggtcg tggagctctg ccaatatcgt  
 120  
 gtgtccatgc tgaagatgga cgagagcacg ctgctgcggg agggccagga gctcagcctg  
 180  
 gagaagctgc agcaggccgt gaggcagaac gggctcatgt cggggctgat gcagatgctg  
 240

ctgctgaagg tgtctgcaca catcaccgag cagctgggca tggccccagg tggcgagttc  
 300  
 agggaggcct tcaaggaggc cagcaagggtg cctttctgca agttccacct gggtgaccga  
 360  
 cccatccccg tcaccttcaa gagggccatc gcagcgctct ccttctggca gaaggtcagg  
 420  
 ctggcttggg gcctgtgctt cctgtcagac cccatcagca aggatgacgt ggaacgctgc  
 480  
 aagcagaagg acctactgga gcagatgatg gccgagatga ttggcgagtt cccagacctg  
 540  
 caccgcacca tcgtctcgga gcgcgacgtc tacctaacct acatgctgcg ccaggccgcg  
 600  
 cggcgccctg agctgcctcg  
 620

<210> 4438

<211> 206

<212> PRT

<213> Homo sapiens

<400> 4438

Xaa	Cys	Arg	Val	Tyr	Val	Val	Gly	Thr	Ala	His	Phe	Ser	Asp	Asp	Ser
1				5					10					15	
Lys	Arg	Asp	Val	Val	Lys	Thr	Ile	Arg	Glu	Val	Gln	Pro	Asp	Val	Val
			20					25					30		
Val	Val	Glu	Leu	Cys	Gln	Tyr	Arg	Val	Ser	Met	Leu	Lys	Met	Asp	Glu
		35					40					45			
Ser	Thr	Leu	Leu	Arg	Glu	Ala	Gln	Glu	Leu	Ser	Leu	Glu	Lys	Leu	Gln
		50				55					60				
Gln	Ala	Val	Arg	Gln	Asn	Gly	Leu	Met	Ser	Gly	Leu	Met	Gln	Met	Leu
65				70					75					80	
Leu	Leu	Lys	Val	Ser	Ala	His	Ile	Thr	Glu	Gln	Leu	Gly	Met	Ala	Pro
			85					90					95		
Gly	Gly	Glu	Phe	Arg	Glu	Ala	Phe	Lys	Glu	Ala	Ser	Lys	Val	Pro	Phe
		100					105					110			
Cys	Lys	Phe	His	Leu	Gly	Asp	Arg	Pro	Ile	Pro	Val	Thr	Phe	Lys	Arg
		115				120					125				
Ala	Ile	Ala	Ala	Leu	Ser	Phe	Trp	Gln	Lys	Val	Arg	Leu	Ala	Trp	Gly
		130				135					140				
Leu	Cys	Phe	Leu	Ser	Asp	Pro	Ile	Ser	Lys	Asp	Asp	Val	Glu	Arg	Cys
145				150					155				160		
Lys	Gln	Lys	Asp	Leu	Leu	Glu	Gln	Met	Met	Ala	Glu	Met	Ile	Gly	Glu
			165					170					175		
Phe	Pro	Asp	Leu	His	Arg	Thr	Ile	Val	Ser	Glu	Arg	Asp	Val	Tyr	Leu
		180					185						190		
Thr	Tyr	Met	Leu	Arg	Gln	Ala	Ala	Arg	Arg	Leu	Glu	Leu	Pro		
		195				200						205			

<210> 4439

<211> 2121

<212> DNA

<213> Homo sapiens

<400> 4439

nttttttttt ttgaacttct atatctatat tttatatattt aagattggga cagagaaact  
60  
tcccagatat ttgacgtaag aatttgtttt gaaaaagttt ggtaattaat ataaaactac  
120  
tctaaaatta actttttattg ttagagacac atcttttagaa aagtttgtaa atatcaacat  
180  
ttaccatctt attttttcct ttgagaccaa gcatcacaga ccaaaagcca caaagtttac  
240  
aataatztat tattgttgca tgacatttgc cagtaaaata aattatagaa actatagagt  
300  
ctttataaac tattttgtat atcatattca ctccctaagt cttactgcag taactgtatg  
360  
aaatttaatt agattacgtt ttagcattag tcagaagatt taaaaaatat gtaaaatggt  
420  
ttcacagtac ttgggattta taaaagaccc cattatttta acttttggtc aacctgtttg  
480  
aaatgtataa aaaacctttt acaaaccaaa aggtggcgta aggttttact gagttgctga  
540  
agacatctta ctttcttgaa tttctactta acatccatgt ggtgcacttt ttcaggcatt  
600  
gtaataagtg caaataaata atcaattatt gatttctaaa aatctatacc aatagacaat  
660  
actcaggctt ggaaatattt tgaacactca gatataaaaa ttcagtaaac aatttatgca  
720  
tggtattttc tctccctgtc ctccctctcc ctccctccct cccctatcta ttgggttaaa  
780  
aaaaaaaaag ttcaacttcg atttaagtcc tagggcctga caaagtgacc ctggataaat  
840  
gtcatctcca gccatctgtt ttcttttagtt ctcattacat ctgtccaggc tcttctatca  
900  
gcatcaatcc tttcctgcag ggacggaaga gttttcaaat ccttgctgaa agcattttgt  
960  
tctcctctgt aacagcacag ggcagtaaatt tgtttgaggt ctttgtaacc agtctgttca  
1020  
gtcctggtcc ctttccagtc ccggtccctt tccagcctct ggagtcctga cagaagagaa  
1080  
gcttgtaagg tagcagcaaa atgctgcac tgtagaata tcacaaactc acttggtctt  
1140  
tgaatgtcca ttcttgata acgtccttat ccacctctct ctcttcagtg aactttgatg  
1200  
gaatatttcc gcagtttcag aaactggaaa agcttgctct ttgtcctctt cttcaaggcc  
1260  
atcagggcac gcgttttctc ctccacatct tgatctatgg caaaaatgat cttggctctc  
1320  
tcctctgctt tcttgtctcc agagtttctg aagagccttt ctagtgattc ttggtctgtg  
1380  
ttttcaaaga tggtgcccac ggctttctta cgagaggctg tgtcgaagtg gtagccatgg  
1440  
atggatgggc tgactcgtag cgacgtggac atgatgatgg cttggtggct tcgctttgct  
1500  
ttcatcgatg tggggatctt ccggaattca gctcccaggc tttccatgat tggagctgat  
1560  
tcacttgaag agaaattttt gcgtagaatt ggaagattcg gttatgggta tggcccttat  
1620

cagccagttc cagaacaacc actataccca caaccatacc aaccacaata ccaacaatat  
 1680  
 accttttaat atcatcagta actgcaggac atgattatgg aggtttgact ggcaaatacg  
 1740  
 acttctacat ccatattctc atctttcata ccatatcaca ctactaccac tttttgaaga  
 1800  
 attatcataa ggcaatgcag aataaaagaa ataccatgat ttactgtata ctctttgttt  
 1860  
 caggatactt cccttcctaa ttatcatttg attagatact tgcaatttaa actgttaagc  
 1920  
 tgtgttcact gctgtttctg aataatagaa attcattcct ctccaaaagc aataaatttc  
 1980  
 aagcacattt tccaatacct gtggcatcac actactacca ctttttgaag aatcatcaaa  
 2040  
 gggcaatgca aatgaaaaac attataattt actgtatact ctttgtttca ggatacttgc  
 2100  
 cttttcaatt gtcacttgat g  
 2121

<210> 4440

<211> 82

<212> PRT

<213> Homo sapiens

<400> 4440

Met	Asp	Gly	Leu	Thr	Arg	Ser	Asp	Val	Asp	Met	Met	Met	Ala	Trp	Trp
1				5				10					15		
Leu	Arg	Phe	Ala	Phe	Ile	Asp	Val	Gly	Ile	Phe	Arg	Asn	Ser	Ala	Pro
		20					25					30			
Arg	Leu	Ser	Met	Ile	Gly	Ala	Asp	Ser	Ser	Glu	Glu	Lys	Phe	Leu	Arg
		35				40					45				
Arg	Ile	Gly	Arg	Phe	Gly	Tyr	Gly	Tyr	Gly	Pro	Tyr	Gln	Pro	Val	Pro
	50				55				60						
Glu	Gln	Pro	Leu	Tyr	Pro	Gln	Pro	Tyr	Gln	Pro	Gln	Tyr	Gln	Gln	Tyr
65				70				75					80		
Thr	Phe														

<210> 4441

<211> 2055

<212> DNA

<213> Homo sapiens

<400> 4441

ntaggaagg gaggggaagg ggaaggcgag aaggggagag gcaggggaaa gaggggaaga  
 60  
 gtcgtgggag ctgggagagg agggaaagag gggaagagtc gtgggagctg gcagaggagg  
 120  
 gaaaggggga gccgaactg aagggcgaag ggcggggcgg ggcaggagag tcgggggata  
 180  
 gagcaggcag gtgttaatgg catgggaagg aagagtaaga agtggggcaa gaaggtgtcg  
 240  
 cggtacgagg ggaaggtgag actcaagaag gtgccggcta agaagctggt gccggcgtgg  
 300

aaggagaagg tgctgtgggc cctgctggca gtgctcctgg cgtcgtggag gctgtgggcg  
360  
atcaaggatt tccaggaatg cacctggcag gttgtcctga acgagtttaa gagggtaggc  
420  
gagagtgggtg tgagcgacag cttctttgag caagagcccc tggacacagt gagcagcttg  
480  
tttcacatgc tgggtggactc acccatcgac ccgagcgaga aatacctggg cttcccttac  
540  
tacctgaaga tcaactactc ctgcgaggaa aagccctctg aggacctggg gcgcatgggc  
600  
cacctgacgg ggctaaagcc cctggtgctg gtcaccttcc agtccccagt caacttctac  
660  
cgctggaaga tagagcagct gcagatccag atggaggctg ccccttccg cagcaaaggt  
720  
gggcctgggg gaggcgggag ggatcgcaac ctggcaggga tgaatatcaa cggcttcctg  
780  
aagagagacc gggacaataa catccaattc actgtgggag aggagctctt caacctgatg  
840  
ccccagtact ttgtgggtgt ctcacgagg cccttgtggc aactgtgga ccagtcacct  
900  
gtgcttatcc tgggaggcat tccaatgag aagtacgtcc tgatgactga caccagcttc  
960  
aaggacttct ctctcgtaga ggtgaacggt gtggggcaga tgctgagcat tgacagttag  
1020  
tgggtgggct ccttctactg ccccatctt ggcttcacag ccaccatcta tgacactatt  
1080  
gccaccgaga gcacctctt cattcggcag aaccagctgg tctactatct tacaggcacc  
1140  
tataccacac tctatgagag aaaccgccc agtggtagt gtgctgtggc tggaccacg  
1200  
cctggggagg gcacctggt gaaccctcc actgaaggca gttggattcg tgtcctggcc  
1260  
agcgagtgca tcaagaagct gtgccctgtg tatttccata gcaatggctc tgagtacata  
1320  
atggccctca ccacgggcaa gcagtagggg tatgtacact tcgggacat cagagttacc  
1380  
acctgctcca taatttggtc tgaatacacc gcgggtgagt atactctact gctgctgggt  
1440  
gagagtggat atggtaatgc aagtaaacgt ttccagggtg tcagctacaa cacagctagt  
1500  
gatgacctgg aacttctcta ccacatccca gaattcatcc ctgaagctcg aggattggag  
1560  
ttctgatga tctaggggac agagtcttac accagcactg caatggcccc caagggcac  
1620  
ttctgtaacc cgtacaacaa tctgatcttc atctggggca acttcctctc gcagagatct  
1680  
ggtacctcct ggagggcagc taccgggtct accagctgtt ccctccaag ggctggcagg  
1740  
tgacatcag cttaaagctg atgcaacagt cctctctcta cgcacccaat gagaccatgc  
1800  
tgacctctt ctacgaagac agcaaactgt accaggtgcc cgggtggagct atgcggggac  
1860  
atcggggcac ccaggaggg ctgacccag ctcacctggc cctgccttcc cctgcagct  
1920

gggtgtacctt atgaacaacc agaagggcca gctgggtcaag aggctcgtgc ccgtggagca  
 1980  
 gcttctgatg tatcaacagc acaccagcca ctatgacttg gagcggaag ggtgagaaga  
 2040  
 caccggacca tgaca  
 2055

<210> 4442  
 <211> 517  
 <212> PRT  
 <213> Homo sapiens

<400> 4442  
 Met Gly Arg Lys Ser Lys Lys Trp Gly Lys Lys Val Ser Arg Tyr Glu  
 1 5 10 15  
 Gly Lys Val Arg Leu Lys Lys Val Pro Ala Lys Lys Leu Val Pro Ala  
 20 25 30  
 Trp Lys Glu Lys Val Leu Trp Ala Leu Leu Ala Val Leu Leu Ala Ser  
 35 40 45  
 Trp Arg Leu Trp Ala Ile Lys Asp Phe Gln Glu Cys Thr Trp Gln Val  
 50 55 60  
 Val Leu Asn Glu Phe Lys Arg Val Gly Glu Ser Gly Val Ser Asp Ser  
 65 70 75 80  
 Phe Phe Glu Gln Glu Pro Val Asp Thr Val Ser Ser Leu Phe His Met  
 85 90 95  
 Leu Val Asp Ser Pro Ile Asp Pro Ser Glu Lys Tyr Leu Gly Phe Pro  
 100 105 110  
 Tyr Tyr Leu Lys Ile Asn Tyr Ser Cys Glu Glu Lys Pro Ser Glu Asp  
 115 120 125  
 Leu Val Arg Met Gly His Leu Thr Gly Leu Lys Pro Leu Val Leu Val  
 130 135 140  
 Thr Phe Gln Ser Pro Val Asn Phe Tyr Arg Trp Lys Ile Glu Gln Leu  
 145 150 155 160  
 Gln Ile Gln Met Glu Ala Ala Pro Phe Arg Ser Lys Gly Gly Pro Gly  
 165 170 175  
 Gly Gly Gly Arg Asp Arg Asn Leu Ala Gly Met Asn Ile Asn Gly Phe  
 180 185 190  
 Leu Lys Arg Asp Arg Asp Asn Asn Ile Gln Phe Thr Val Gly Glu Glu  
 195 200 205  
 Leu Phe Asn Leu Met Pro Gln Tyr Phe Val Gly Val Ser Ser Arg Pro  
 210 215 220  
 Leu Trp His Thr Val Asp Gln Ser Pro Val Leu Ile Leu Gly Gly Ile  
 225 230 235 240  
 Pro Asn Glu Lys Tyr Val Leu Met Thr Asp Thr Ser Phe Lys Asp Phe  
 245 250 255  
 Ser Leu Val Glu Val Asn Gly Val Gly Gln Met Leu Ser Ile Asp Ser  
 260 265 270  
 Cys Trp Val Gly Ser Phe Tyr Cys Pro His Ser Gly Phe Thr Ala Thr  
 275 280 285  
 Ile Tyr Asp Thr Ile Ala Thr Glu Ser Thr Leu Phe Ile Arg Gln Asn  
 290 295 300  
 Gln Leu Val Tyr Tyr Phe Thr Gly Thr Tyr Thr Thr Leu Tyr Glu Arg  
 305 310 315 320  
 Asn Arg Gly Ser Gly Glu Cys Ala Val Ala Gly Pro Thr Pro Gly Glu



```
<210> 4443
<211> 692
<212> DNA
<213> Homo sapiens
```

```

<400> 4443
agatctggag ggagggtaag ggctggtttc atgctgactt catttctggt tggatggcct
60
ccagggtaag gtctgggccc ctgctgctga catccccac atgtcagtct gcctgctagt
120
gggattgact aactcatcaa cgtggagttt aatgcccaac caagtgcaga ccacgctcct
180
gttttgcgtc accctctgcg aagcttctctg caaacttgac tccctgcccga gtgccccag
240
ccccaaggct ggtctccagg aggtaaggcc cgccctgcag gcaacaccgg tgcttgggct
300
cctgctgagc agttctttcc tgcgagtaac agaaccaggg agggaggttg gctgtggcct
360
cccctgcccc tacagtcata tctctgcagct cccaccatgc tggactcatc agcagcagag
420
caagtgaccc gactgacgct gaagctcttg ggacagaagc tggagcaaga acggcagaac
480
gtggaagggg gacctgaggg ctccacctcg agccaggaaa tgaggaccgg ccggacgatg
540
ccctgcagac tgctctgaag agaaggaggg accttctgca gagactccgg gaacaacacc
600
tcttgacga gctctctcgg gcccaggcct ggagcggggc aagcagagga gccctcgagt
660

```

cagccctgcc cccagagctg cccccacgc gt  
692

<210> 4444  
<211> 108  
<212> PRT  
<213> Homo sapiens

<400> 4444  
Met Ser Val Cys Leu Leu Val Gly Leu Thr Asn Ser Ser Thr Trp Ser  
1 5 10 15  
Leu Met Pro Asn Gln Val Gln Thr Thr Leu Leu Phe Cys Val Thr Leu  
20 25 30  
Cys Glu Ala Ser Cys Lys Leu Asp Ser Leu Pro Ser Ala Pro Ser Pro  
35 40 45  
Lys Ala Gly Leu Gln Glu Val Arg Pro Ala Leu Gln Ala Thr Pro Val  
50 55 60  
Leu Gly Leu Leu Leu Ser Ser Ser Phe Leu Arg Val Thr Glu Pro Gly  
65 70 75 80  
Arg Glu Val Gly Cys Gly Leu Pro Cys Pro Tyr Ser His Leu Leu Gln  
85 90 95  
Leu Pro Pro Cys Trp Thr His Gln Gln Gln Ser Lys  
100 105

<210> 4445  
<211> 901  
<212> DNA  
<213> Homo sapiens

<400> 4445  
ggatccactg cctctgtgcc tgccgtgtact gccgatgctc cagtggataa ctcagcatcc  
60  
cagccaaggc ccaatgccac tgaagatgga cctgccccct ggggaccag gagtcctacc  
120  
actcagctgt ccccaggagt gccagaccc tcattcttat ccaggaccta ggagccctac  
180  
ccctggcctt cctcatcag ccgtaaatga tgatttactg ctgttaccat catcactgcc  
240  
ttcagtgacc aagggccttc caagggtcca gctctggaac gaaggatgcc cttgggaggt  
300  
gatgatactc aggtacacgg gtgctcaaca gattgcttcc tcctatcctc agacggtctt  
360  
tgcatgcatg cagccattgg cactccatt gtgtggaagg aaaccagccc agggtcacac  
420  
agctggtcag cagcaacata gctgggtctca aatctaagggt gcctgacat gcctccatga  
480  
gggaccgcct ccaaggaggt ttgatcctgg ctttggggag cctttcctgg gctgcacgaa  
540  
taacctccat tgttcgagac cccaaactct gctcacatct tcctttccct gtctctgctt  
600  
gggctatgat cacggtgact ctagcaaccc ttcattggaca ttataatact ctctgccatt  
660  
cacttttggg ctaatctgac ttcaaccccc attacttgg tctctccttt tacaaccaac  
720

atggcaaaac cccatctcca caaaaattgg ataatttgat aattatcatt attgggtttc  
 780  
 tgagacgtta cacatttaac attctcttct gcacaagttg cctttgtgtg agtatactaa  
 840  
 ctttctgtag aggtatactt gtaatcacia ataagaataa attatataaa acaaaaaaaaa  
 900  
 a  
 901

<210> 4446  
 <211> 140  
 <212> PRT  
 <213> Homo sapiens

<400> 4446  
 Met Leu Gln Trp Ile Thr Gln His Pro Ser Gln Gly Pro Met Pro Leu  
 1 5 10 15  
 Lys Met Asp Leu Pro Pro Gly Asp Pro Gly Val Leu Pro Leu Ser Cys  
 20 25 30  
 Pro Gln Glu Cys Pro Asp Pro His Ser Tyr Pro Gly Pro Arg Ser Pro  
 35 40 45  
 Thr Pro Gly Leu Pro Ser Ser Ala Val Asn Asp Asp Leu Leu Leu Leu  
 50 55 60  
 Pro Ser Ser Leu Pro Ser Val Thr Lys Gly Leu Pro Arg Cys Gln Leu  
 65 70 75 80  
 Trp Asn Glu Gly Cys Pro Trp Glu Val Met Ile Leu Arg Tyr Thr Gly  
 85 90 95  
 Ala Gln Gln Ile Ala Ser Ser Tyr Pro Gln Thr Val Phe Ala Cys Met  
 100 105 110  
 Gln Pro Leu Ala Leu Pro Leu Cys Gly Arg Lys Pro Ala Gln Gly His  
 115 120 125  
 Thr Ala Gly Gln Gln Gln His Ser Trp Ser Gln Ile  
 130 135 140

<210> 4447  
 <211> 951  
 <212> DNA  
 <213> Homo sapiens

<400> 4447  
 agatgtccaa agagcagcgg ctgcccaggc cttgtgcagc gggcagcgag cagcccaggg  
 60  
 agccaggccc cagacaccgc actcagggcc atggccgaca ggggcccgtg gaggggtggg  
 120  
 gtggtgggct atggccgcct cggacagtcc cttgtgtccc gccttctggc tcagggatca  
 180  
 gaactgggccc tagaacttgt ttttgtgtgg aaccgtgacc ctggacgaat ggcaggggag  
 240  
 gtgccccctg ccctgcagct cgaagacctc actacacttg aggaaaggca ccctgacctt  
 300  
 gtggtagaag tggcccatcc aaaaataatc catgaatctg gggtagaaat cctccgtcat  
 360  
 gcaaaccctc tgagccttcg tgtcaccatg gccacacacc ccgatggctt ccggcttgag  
 420

ggacccctgg ctgcagccca cagccctggg ccttgactg tgctctacga aggcctgtc  
 480  
 cgtgggctct gccctttgc cccgcgaaat tccaacacca tggcggcggc tgccctggct  
 540  
 gccccagcc tgggcttcga tggggtgatt ggggtgctcg tggctgatac cagcctcacg  
 600  
 gacatgcacg tgggtgatgt agagctgagc ggaccccggg gcccacggg ccgaagcttt  
 660  
 gctgtgcaca cccgcagaga gaaccctgcc gagccaggcg cggtcaccgg ctccgccacc  
 720  
 gtcacggcct tctggcggag cctcctggcc tgctgccagc tccctccag gccggggatc  
 780  
 catctctgct gagaagcctc ctccctcccg agacaagatc atctgcctgg cctctcacca  
 840  
 ccaccatccc acccctgccc tgcccactt cccagggtc tcccttctga ctcagtaaag  
 900  
 atcacgctg cctccccccg caaaaaaaaa aaaaaaaaaa aaaaaaaaaa a  
 951

<210> 4448

<211> 263

<212> PRT

<213> Homo sapiens

<400> 4448

Arg	Cys	Pro	Lys	Ser	Ser	Gly	Cys	Pro	Gly	Leu	Val	Gln	Arg	Ala	Ala
1				5					10					15	
Ser	Ser	Pro	Gly	Ser	Gln	Ala	Pro	Asp	Thr	Ala	Leu	Arg	Ala	Met	Ala
			20					25					30		
Asp	Arg	Gly	Pro	Trp	Arg	Val	Gly	Val	Val	Gly	Tyr	Gly	Arg	Leu	Gly
		35					40					45			
Gln	Ser	Leu	Val	Ser	Arg	Leu	Leu	Ala	Gln	Gly	Ser	Glu	Leu	Gly	Leu
	50					55					60				
Glu	Leu	Val	Phe	Val	Trp	Asn	Arg	Asp	Pro	Gly	Arg	Met	Ala	Gly	Ser
65					70					75				80	
Val	Pro	Pro	Ala	Leu	Gln	Leu	Glu	Asp	Leu	Thr	Thr	Leu	Glu	Glu	Arg
				85					90					95	
His	Pro	Asp	Leu	Val	Val	Glu	Val	Ala	His	Pro	Lys	Ile	Ile	His	Glu
			100					105					110		
Ser	Gly	Val	Gln	Ile	Leu	Arg	His	Ala	Asn	Leu	Leu	Ser	Leu	Arg	Val
	115						120					125			
Thr	Met	Ala	Thr	His	Pro	Asp	Gly	Phe	Arg	Leu	Glu	Gly	Pro	Leu	Ala
	130					135						140			
Ala	Ala	His	Ser	Pro	Gly	Pro	Cys	Thr	Val	Leu	Tyr	Glu	Gly	Pro	Val
145					150					155				160	
Arg	Gly	Leu	Cys	Pro	Phe	Ala	Pro	Arg	Asn	Ser	Asn	Thr	Met	Ala	Ala
			165						170					175	
Ala	Ala	Leu	Ala	Ala	Pro	Ser	Leu	Gly	Phe	Asp	Gly	Val	Ile	Gly	Val
		180						185					190		
Leu	Val	Ala	Asp	Thr	Ser	Leu	Thr	Asp	Met	His	Val	Val	Asp	Val	Glu
	195						200					205			
Leu	Ser	Gly	Pro	Arg	Gly	Pro	Thr	Gly	Arg	Ser	Phe	Ala	Val	His	Thr
	210					215						220			
Arg	Arg	Glu	Asn	Pro	Ala	Glu	Pro	Gly	Ala	Val	Thr	Gly	Ser	Ala	Thr

225		230		235		240									
Val	Thr	Ala	Phe	Trp	Arg	Ser	Leu	Leu	Ala	Cys	Cys	Gln	Leu	Pro	Ser
				245				250					255		
Arg	Pro	Gly	Ile	His	Leu	Cys									
			260												

&lt;210&gt; 4449

&lt;211&gt; 1365

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4449

```

ncaattgatg atatttatca ttgtgccag tttctacaaa taaaagatgg gtggattatt
60
ttctcgatgg aggacaaaac ctccaactgt agaagttcta gaaagtatag ataaggaaat
120
tcaagcattg gaagaattta gggaaaaaaa tcagagatta caaaaattat gggttggaag
180
attaattctg tattcctcag ttctctatct gtttacctgc ttaattgtat atttgtggta
240
tcttctgat gaatttacag caagacttgc catgacactc ccattttttg cttttccatt
300
gatcatctgg agcataagaa cagtaattat tttcttcttt tccaagagaa cagaaagaaa
360
taatgaagca ttggatgatt taaaatccca gaggaaaaaa atacttgaag aagtcatgga
420
aaaagaaact tacaagacgg ctaaattaat tcttgaaagg tttgatccgt actcaaagaa
480
agcaaaggag tgtgagccgc catctgctgg agcagctgta actgcaagac ctggacaaga
540
gattcgtcag cgaactgcag ctcaaagaaa cctttctcaa caccagcaag ccctaaccag
600
ggccctcttc cacaagttcc agtatctcct ggaccaccaa aggacagttc tgccctgggt
660
ggacccccag aaaggactgt tactccagcc ctatcatcaa atgtgttacc aagacatctt
720
ggatcccttg ctacttcagt gcctggaatg ggtcttcac cccaggtcc accttagca
780
agacctattc tccccgaga acgaggtgct ttggatagaa ttggtgaata tttggttggt
840
gatgggtccac aaaacaggta tgcacttata tgtcagcagt gtttttctca taatggcatg
900
gctttgaagg aagaatttga atacattgct tttcgatgtg cctactgttt tttcttgaac
960
cctgcaagaa aaaccagacc tcaggctcca agacttcttg agtttagttt tgagaagagg
1020
caggtggtgg aaggttcaag ttcagttggt cccttgccat caggaagtgt gctttcatca
1080
gacaaccagt ttaatgaaga atcttttagaa cacgatgttc ttgatgataa tacagagcag
1140
acagatgaca aaataccagc tacagaacag acaaaccaag tgattgaaaa agcatctgac
1200
tcagaggaac cagaggagaa acaagagact gagaatgagg aagcctcagt gattgaaacc
1260

```

aactccacag ttcttgaggc tgattctatt cctgatcctg aactaagtgg agaattcttg  
 1320  
 acggcagagt agtaaagtct tccacgtgcc ttcaactgga aaaaa  
 1365

<210> 4450  
 <211> 194  
 <212> PRT  
 <213> Homo sapiens

<400> 4450  
 Met Gly Leu His Pro Pro Gly Pro Pro Leu Ala Arg Pro Ile Leu Pro  
 1 5 10 15  
 Arg Glu Arg Gly Ala Leu Asp Arg Ile Val Glu Tyr Leu Val Gly Asp  
 20 25 30  
 Gly Pro Gln Asn Arg Tyr Ala Leu Ile Cys Gln Gln Cys Phe Ser His  
 35 40 45  
 Asn Gly Met Ala Leu Lys Glu Glu Phe Glu Tyr Ile Ala Phe Arg Cys  
 50 55 60  
 Ala Tyr Cys Phe Phe Leu Asn Pro Ala Arg Lys Thr Arg Pro Gln Ala  
 65 70 75 80  
 Pro Arg Leu Pro Glu Phe Ser Phe Glu Lys Arg Gln Val Val Glu Gly  
 85 90 95  
 Ser Ser Ser Val Gly Pro Leu Pro Ser Gly Ser Val Leu Ser Ser Asp  
 100 105 110  
 Asn Gln Phe Asn Glu Glu Ser Leu Glu His Asp Val Leu Asp Asp Asn  
 115 120 125  
 Thr Glu Gln Thr Asp Asp Lys Ile Pro Ala Thr Glu Gln Thr Asn Gln  
 130 135 140  
 Val Ile Glu Lys Ala Ser Asp Ser Glu Glu Pro Glu Glu Lys Gln Glu  
 145 150 155 160  
 Thr Glu Asn Glu Glu Ala Ser Val Ile Glu Thr Asn Ser Thr Val Pro  
 165 170 175  
 Gly Ala Asp Ser Ile Pro Asp Pro Glu Leu Ser Gly Glu Ser Leu Thr  
 180 185 190  
 Ala Glu

<210> 4451  
 <211> 1637  
 <212> DNA  
 <213> Homo sapiens

<400> 4451  
 nntcctggag gacccaggac tgaccaagtc cccggcctca gcaggcgatc atgttggcag  
 60  
 gcttgatct tctcgctctg tgaccagcct gggccacaca ctggtggaat ctgctctcac  
 120  
 gaggccttcc ctgcccagtc cccacaggac ctcacctagg gtggaggaga gcaacagcaa  
 180  
 gctcctggag tcagagagga agctgcagga ggagcgacac cgcaccgtgg tcttggagca  
 240  
 acatctggag aagatacgcc tggagccagg gaaggcatca gcctcccaga gagcagctcc  
 300

caggacaaaa acagctccgc tcttggatgt atgctgtgta cggggccttg gctgtgatgg  
360  
gcacaatggg cccttgggtac ctgctgctgc tgcttgggtca ctgtgtgggc ctctatgtgg  
420  
cctcgctttt gggccagccc tggtctgtgc ttggccttgg cttggccagc ctggcctcct  
480  
tcaagatgga cccctaatac tcttggcaga gcgggtttgt aacaggcact tttgatcttc  
540  
aagaggtgct gtttcatggg ggcagcagct tcacagtgtc gcgttgacc agctttgcac  
600  
tggagagctg tgcccaccct gaccgccact nactccttag ctgacctgct caagtacaac  
660  
ttctacctgc ccttcttctt cttcgggccc atcatgacct ttgatcgctt ccatgctcag  
720  
gtgagccagg tggagccagt gagacgcgag ggtgagctgt ggcacatccg agcccaggca  
780  
ggcctaagcg tgggtggccat catggccgtc gacatcttct ttcacttctt ctacatcctc  
840  
actatcccca gcgacctcaa gttcgccaac cgcctcccag acagtgcctt cgctggccta  
900  
gcctattcaa acctggtgta tgactgggtg aaggcggccg tcctcttttg tgtgtcaac  
960  
actgtggcat gcctcgacca cctggaccca cccagcctc ccaagtgcac caccgcactc  
1020  
tacgtctttg cggaaacgca ctttgaccgt ggcacaaacg actggctttg caaatatgtg  
1080  
tataaccaca ttggtgggga gcattccgct gtgatcccag agctggcagc cacagtggcc  
1140  
acatttgcca tcaccacact gtggcttggg ccttgtgaca ttgtctacct gtggtcatte  
1200  
cttaactgct ttggcctcaa ctttgagctc tggatgcaaa aactggcaga gtgggggccc  
1260  
ctagcacgaa ttgaggcctc tctgtcagtg cagatgtccc gtaggggtccg ggcctgttt  
1320  
ggagccatga acttctgggc catcatcatg tacaaccttg tgagcctgaa cagcctcaaa  
1380  
ttcacagagc tgggtgcccg gcgctgcta ctcacagggt tccccagac cacgtgtcc  
1440  
atcctgtttg tcacctactg tggcgctccag ctggtaaagg agcgtgagcg aaccttggca  
1500  
ctggaggagg agcagaagca ggacaaagag aagccggagt aggagggagc gggtagaggg  
1560  
atgggctctg ctcagctatt cttgggccag atggggcctg accgatagaa taaaagactt  
1620  
ttctacaaca aaaaaa  
1637

&lt;210&gt; 4452

&lt;211&gt; 328

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4452

Met Gly Ala Ala Ala Ser Gln Cys Cys Val Ala Pro Ala Leu His Trp

```

      1           5           10           15
Arg Ala Val Pro Thr Leu Thr Ala Thr Xaa Ser Leu Ala Asp Leu Leu
      20           25           30
Lys Tyr Asn Phe Tyr Leu Pro Phe Phe Phe Phe Gly Pro Ile Met Thr
      35           40           45
Phe Asp Arg Phe His Ala Gln Val Ser Gln Val Glu Pro Val Arg Arg
      50           55           60
Glu Gly Glu Leu Trp His Ile Arg Ala Gln Ala Gly Leu Ser Val Val
      65           70           75           80
Ala Ile Met Ala Val Asp Ile Phe Phe His Phe Phe Tyr Ile Leu Thr
      85           90           95
Ile Pro Ser Asp Leu Lys Phe Ala Asn Arg Leu Pro Asp Ser Ala Leu
      100          105          110
Ala Gly Leu Ala Tyr Ser Asn Leu Val Tyr Asp Trp Val Lys Ala Ala
      115          120          125
Val Leu Phe Gly Val Val Asn Thr Val Ala Cys Leu Asp His Leu Asp
      130          135          140
Pro Pro Gln Pro Pro Lys Cys Ile Thr Ala Leu Tyr Val Phe Ala Glu
      145          150          155          160
Thr His Phe Asp Arg Gly Ile Asn Asp Trp Leu Cys Lys Tyr Val Tyr
      165          170          175
Asn His Ile Gly Gly Glu His Ser Ala Val Ile Pro Glu Leu Ala Ala
      180          185          190
Thr Val Ala Thr Phe Ala Ile Thr Thr Leu Trp Leu Gly Pro Cys Asp
      195          200          205
Ile Val Tyr Leu Trp Ser Phe Leu Asn Cys Phe Gly Leu Asn Phe Glu
      210          215          220
Leu Trp Met Gln Lys Leu Ala Glu Trp Gly Pro Leu Ala Arg Ile Glu
      225          230          235          240
Ala Ser Leu Ser Val Gln Met Ser Arg Arg Val Arg Ala Leu Phe Gly
      245          250          255
Ala Met Asn Phe Trp Ala Ile Ile Met Tyr Asn Leu Val Ser Leu Asn
      260          265          270
Ser Leu Lys Phe Thr Glu Leu Val Ala Arg Arg Leu Leu Leu Thr Gly
      275          280          285
Phe Pro Gln Thr Thr Leu Ser Ile Leu Phe Val Thr Tyr Cys Gly Val
      290          295          300
Gln Leu Val Lys Glu Arg Glu Arg Thr Leu Ala Leu Glu Glu Glu Gln
      305          310          315          320
Lys Gln Asp Lys Glu Lys Pro Glu
      325

```

&lt;210&gt; 4453

&lt;211&gt; 685

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4453

```

tttttttttt tttttttttt tttttttttt tttttccagt gtggaaactt actttattcc
60
agccatgatt atcctagttg tcaccttgca cacctgccat ccggtgccat ctcttggtg
120
gcacatctat acccactctg gctctgaaag gcttgtcaac caaaaatggg cagctggggc
180

```



taaggcatat ttaaacaag gctccaaagg acccctttca cttgggtcta gcatccagcc  
 240  
 tctctctcag caaaggcagg attgtggtcc cttgtgtttt ctgaacaggg cccagggcag  
 300  
 ccaaggcatg ccatcactgc agcactcaac cctctggtca cagtggagtc gccgggtccag  
 360  
 cctgaaatat tactacagag gagaaagacc cattcttgc tttgttgcct atcttccacg  
 420  
 tccaaaaaca gtcctatgta gcttcagctg ctccgaaatc aggtcacaga acagcaggag  
 480  
 acattccttt ggcaaaaaag gacacgcttt tgcctgtat cttatactgg taagtgaagc  
 540  
 tctgatcccg gtggactgcg ggctgcatg gtctcctcca caggatcctc agctacagag  
 600  
 acagagaaga atgaaagagg agcagccacc ccaggacctg ctccactggg aacccccacc  
 660  
 taccttctct gtgcccttca cgcgt  
 685

&lt;210&gt; 4454

&lt;211&gt; 207

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4454

Met	Ile	Ile	Leu	Val	Val	Thr	Leu	His	Thr	Cys	His	Pro	Val	Pro	Ser
1				5					10				15		
Pro	Gly	Trp	His	Ile	Tyr	Thr	His	Ser	Gly	Ser	Glu	Arg	Leu	Val	Asn
			20					25					30		
Gln	Lys	Trp	Ala	Ala	Gly	Ala	Lys	Ala	Tyr	Leu	Asn	Lys	Gly	Ser	Lys
		35					40					45			
Gly	Pro	Leu	Ser	Leu	Gly	Ser	Ser	Ile	Gln	Pro	Leu	Ser	Gln	Gln	Arg
	50					55					60				
Gln	Asp	Cys	Gly	Pro	Leu	Cys	Phe	Leu	Asn	Arg	Ala	Gln	Gly	Ser	Gln
65					70					75					80
Gly	Met	Pro	Ser	Leu	Gln	His	Ser	Thr	Leu	Trp	Ser	Gln	Trp	Ser	Arg
			85						90					95	
Arg	Ser	Ser	Leu	Lys	Tyr	Tyr	Tyr	Arg	Gly	Glu	Arg	Pro	Ile	Leu	Ala
			100					105					110		
Met	Leu	Leu	Tyr	Leu	Pro	Arg	Pro	Lys	Thr	Val	Leu	Cys	Ser	Phe	Ser
		115					120					125			
Cys	Ser	Glu	Ile	Arg	Ser	Gln	Asn	Ser	Arg	Arg	His	Ser	Phe	Gly	Lys
		130				135					140				
Lys	Gly	His	Ala	Phe	Val	Leu	Tyr	Leu	Ile	Leu	Val	Ser	Glu	Ala	Leu
145					150					155					160
Ile	Pro	Val	Asp	Cys	Gly	Leu	Arg	Trp	Ser	Pro	Pro	Gln	Asp	Pro	Gln
			165					170					175		
Leu	Gln	Arg	Gln	Arg	Arg	Met	Lys	Glu	Glu	Gln	Pro	Pro	Gln	Asp	Leu
		180					185						190		
Leu	His	Trp	Glu	Pro	His	Pro	Thr	Phe	Ser	Val	Pro	Phe	Thr	Arg	
		195					200						205		

&lt;210&gt; 4455

&lt;211&gt; 882

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4455

nacgcgtgcc tcagtaccaa cgggctcggc agcagcccgg gcagtgccgg gcacatgaac  
 60  
 ggattaagcc acagcccggg gaaccgctcg accattccca tgaaggacca cgatgccatc  
 120  
 aagctgttca ttgggcagat ccccgcaac ctggatgaga aggacctcaa gcccctcttc  
 180  
 gaggagtttg gcaaaatcta cgagcttacg gttctgaagg acaggttcac aggcattgac  
 240  
 aaaggctgcg cttcctcac ctactgcgag cgtgagtcag cgctgaaggc ccagagcgcg  
 300  
 ctgcacgagc agaagactct gcccgggatg aaccggccga tccaggtgaa gcctgcggac  
 360  
 agcgagagcc gaggagatag tagctgctg cgccagcccc cttcacatag aaaactcttc  
 420  
 gtgggcatgc tcaacaagca acagtccgag gacgacgtgc gccgcctttt cgaggccttt  
 480  
 gggaacatcg aggagtgcac catcctgctg gggcccgacg gcaacagcaa ggggtgcgcc  
 540  
 tttgtgaagt actcctccca cgccgaggcg caggccgcca tcaacgcgct acacggcagc  
 600  
 cagaccatgc cgggagcctc gtccagtctg gtggtcaagt tcgccgacac cgacaaggag  
 660  
 cgcacgatgc ggcaatgca gcagatggct ggccagatgg gcatgttcaa ccccatggcc  
 720  
 atccctttcg gggcctacgg cgcctacgct caggcactga tgcagcagca agcggccctg  
 780  
 atggcatcag tcgcgcaggg cggtacctg aaccccatgg ctgccttcgc tgccgccag  
 840  
 atgcagcaga tggcggccct caacatgaat ggctggcg cc  
 882

&lt;210&gt; 4456

&lt;211&gt; 261

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4456

Met Lys Asp His Asp Ala Ile Lys Leu Phe Ile Gly Gln Ile Pro Arg  
 1 5 10 15  
 Asn Leu Asp Glu Lys Asp Leu Lys Pro Leu Phe Glu Glu Phe Gly Lys  
 20 25 30  
 Ile Tyr Glu Leu Thr Val Leu Lys Asp Arg Phe Thr Gly Met His Lys  
 35 40 45  
 Gly Cys Ala Phe Leu Thr Tyr Cys Glu Arg Glu Ser Ala Leu Lys Ala  
 50 55 60  
 Gln Ser Ala Leu His Glu Lys Thr Leu Pro Gly Met Asn Arg Pro  
 65 70 75 80  
 Ile Gln Val Lys Pro Ala Asp Ser Glu Ser Arg Gly Asp Ser Ser Cys  
 85 90 95  
 Leu Arg Gln Pro Pro Ser His Arg Lys Leu Phe Val Gly Met Leu Asn

100 105 110  
 Lys Gln Gln Ser Glu Asp Asp Val Arg Arg Leu Phe Glu Ala Phe Gly  
 115 120 125  
 Asn Ile Glu Glu Cys Thr Ile Leu Arg Gly Pro Asp Gly Asn Ser Lys  
 130 135 140  
 Gly Cys Ala Phe Val Lys Tyr Ser Ser His Ala Glu Ala Gln Ala Ala  
 145 150 155 160  
 Ile Asn Ala Leu His Gly Ser Gln Thr Met Pro Gly Ala Ser Ser Ser  
 165 170 175  
 Leu Val Val Lys Phe Ala Asp Thr Asp Lys Glu Arg Thr Met Arg Arg  
 180 185 190  
 Met Gln Gln Met Ala Gly Gln Met Gly Met Phe Asn Pro Met Ala Ile  
 195 200 205  
 Pro Phe Gly Ala Tyr Gly Ala Tyr Ala Gln Ala Leu Met Gln Gln Gln  
 210 215 220  
 Ala Ala Leu Met Ala Ser Val Ala Gln Gly Gly Tyr Leu Asn Pro Met  
 225 230 235 240  
 Ala Ala Phe Ala Ala Ala Gln Met Gln Gln Met Ala Ala Leu Asn Met  
 245 250 255  
 Asn Gly Leu Ala Ala  
 260

&lt;210&gt; 4457

&lt;211&gt; 1491

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4457

nggctggcag gtgcacatca gcttaaagct gatgcaacag tcctctctct acgcatccaa  
 60  
 tgagaccatg ctgaccctct tctacgaaga cagcaaactg taccagggtgc ccggtggagc  
 120  
 tatgcgggga catcggggca ccccaggagg gctgacccca gctcacctgg ccctgccttc  
 180  
 cccctgcagc tgggtgtacct tatgaacaac cagaagggcc agctggtcaa gaggctcgtg  
 240  
 cccgtggagc agcttctgat gtatcaacag cacaccagcc actatgactt ggagcggaaa  
 300  
 gggggctact tgatgctctc cttcatcgac ttctgcccct tctcggtgat gcgcctgcgg  
 360  
 agcctgccca gtccgcagag atacacgcgc caggagcgt accgggcgcg gccgcgcgc  
 420  
 gtcctggagc gtcgggctt ccacaacgag aactcgctcg ccactacca gggcctggtc  
 480  
 tactacctgc tgtggctgca ctccgtgtac gacaaggatt actacttctt cttggcgagc  
 540  
 aattggcgaa gcgcgggagg cgtgtccata gaaatggaca gctacgaaaa gatctacaac  
 600  
 ctcgagtcgg cgtacgagct gccggagcgc attttctctg acaagggcac tgagtacagc  
 660  
 ttcgccatct tcctgtcggc gcagggccac tcgttccgga cgcagtcaga actcggctctg  
 720  
 cgcgggacca gaggggagcc cgaagggcgg ggcgagggct accagaatct gggagcctgg  
 780

ggggcgggga caccatcgga ggggcggggc ctgtctgtgg acgtgggcgt ggtgctggcc  
 840  
 gaccccggtt gcatcgaggc ctccgtgaag caggaggtcc tgattaatcg caactcgggtg  
 900  
 ctattttcga ttacgtcaa ggataaaaag ctttgctatg accaaggcat tagtggacat  
 960  
 caccttatgg agacttccat gacggccaat gtgaggtcca agcctggagg ggagggcaag  
 1020  
 cgctggcct tcgacatcac ctacacgctg gaatacagcc gcctgaagaa caaacactac  
 1080  
 tttgactgcy ttaacgtgaa cccggagatg ccctgctttc tcttcggga cagtgtctat  
 1140  
 gttctgctgg tgggtgggtgg cgggcccaca ctggacagcc tcaaggacta cagtgaggac  
 1200  
 gaaatctacc gcttcaacag cccctggac aagaccaaca gccttatctg gaccacgagg  
 1260  
 accacaagga ccaccaaaga ctcagccttt cacatcatgt cccacgagag cccaggcatc  
 1320  
 gagtggctct gtctggagaa tgccccatgc tatgacaatg ttccccaagg catctttgcc  
 1380  
 cctgaattct tcttcaaggt gttggtgagc aataggtgag ccaggcaagt ggcccagggtg  
 1440  
 cgggtcaggg gctgcccacg gaatgcctgg cttctcctct aatcctggat c  
 1491

&lt;210&gt; 4458

&lt;211&gt; 405

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4458

Met	Asn	Asn	Gln	Lys	Gly	Gln	Leu	Val	Lys	Arg	Leu	Val	Pro	Val	Glu
1				5					10				15		
Gln	Leu	Leu	Met	Tyr	Gln	Gln	His	Thr	Ser	His	Tyr	Asp	Leu	Glu	Arg
			20					25					30		
Lys	Gly	Gly	Tyr	Leu	Met	Leu	Ser	Phe	Ile	Asp	Phe	Cys	Pro	Phe	Ser
			35				40					45			
Val	Met	Arg	Leu	Arg	Ser	Leu	Pro	Ser	Pro	Gln	Arg	Tyr	Thr	Arg	Gln
			50			55					60				
Glu	Arg	Tyr	Arg	Ala	Arg	Pro	Pro	Arg	Val	Leu	Glu	Arg	Ser	Gly	Phe
65					70				75					80	
His	Asn	Glu	Asn	Ser	Leu	Ala	Ile	Tyr	Gln	Gly	Leu	Val	Tyr	Tyr	Leu
			85					90					95		
Leu	Trp	Leu	His	Ser	Val	Tyr	Asp	Lys	Asp	Tyr	Tyr	Phe	Phe	Leu	Ala
			100					105					110		
Ser	Asn	Trp	Arg	Ser	Ala	Gly	Gly	Val	Ser	Ile	Glu	Met	Asp	Ser	Tyr
			115				120					125			
Glu	Lys	Ile	Tyr	Asn	Leu	Glu	Ser	Ala	Tyr	Glu	Leu	Pro	Glu	Arg	Ile
			130			135					140				
Phe	Leu	Asp	Lys	Gly	Thr	Glu	Tyr	Ser	Phe	Ala	Ile	Phe	Leu	Ser	Ala
145					150				155					160	
Gln	Gly	His	Ser	Phe	Arg	Thr	Gln	Ser	Glu	Leu	Gly	Leu	Arg	Gly	Thr
			165					170					175		
Arg	Val	Glu	Pro	Glu	Gly	Arg	Gly	Glu	Gly	Tyr	Gln	Asn	Leu	Gly	Ala

```

      180      185      190
Trp Gly Ala Gly Thr Pro Ser Glu Gly Arg Gly Leu Ser Val Asp Val
      195      200      205
Gly Val Val Leu Ala Asp Pro Gly Cys Ile Glu Ala Ser Val Lys Gln
      210      215      220
Glu Val Leu Ile Asn Arg Asn Ser Val Leu Phe Ser Ile Thr Leu Lys
225      230      235      240
Asp Lys Lys Leu Cys Tyr Asp Gln Gly Ile Ser Gly His His Leu Met
      245      250      255
Glu Thr Ser Met Thr Val Asn Val Arg Ser Lys Pro Gly Gly Glu Gly
      260      265      270
Lys Arg Leu Ala Phe Asp Ile Thr Tyr Thr Leu Glu Tyr Ser Arg Leu
      275      280      285
Lys Asn Lys His Tyr Phe Asp Cys Val Asn Val Asn Pro Glu Met Pro
      290      295      300
Cys Phe Leu Phe Arg Asp Ser Val Tyr Val Leu Leu Val Val Gly Gly
305      310      315      320
Gly Pro Thr Leu Asp Ser Leu Lys Asp Tyr Ser Glu Asp Glu Ile Tyr
      325      330      335
Arg Phe Asn Ser Pro Leu Asp Lys Thr Asn Ser Leu Ile Trp Thr Thr
      340      345      350
Arg Thr Thr Arg Thr Thr Lys Asp Ser Ala Phe His Ile Met Ser His
      355      360      365
Glu Ser Pro Gly Ile Glu Trp Leu Cys Leu Glu Asn Ala Pro Cys Tyr
      370      375      380
Asp Asn Val Pro Gln Gly Ile Phe Ala Pro Glu Phe Phe Phe Lys Val
385      390      395      400
Leu Val Ser Asn Arg
      405

```

&lt;210&gt; 4459

&lt;211&gt; 1114

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4459

```

cgggggccacg ctgttccaca ggcacgctga gcggcttgaa gacccttccc agctccagag
60
aaggcaacac cgaggaggagc ccagcaccac agtccatggc agacacatgg ttcagacttg
120
gccgattgat ctaagaaact ttattgctca gaaccttccc tccctgggca atggaaagag
180
ctttggagac cagcccatgg ggacagagtc agaggcactg ggtgtaaaaa aagagcgagc
240
gtgtggcaca tttggtccat tgtcatgtgt gggatatggc ggaggagggg gtaatctaga
300
agccccacat ctagggcctt ctagggaccc agatatgcc ccttaggcaa ggctcacatg
360
ccaaagcaaa gcagatgagg tcagcctggc ttgggttgag ggctcagtgc ctcttagcct
420
tgccctgggg ttcttggaac ttccggaaac tgagccacat caggctcagc ttgatagcat
480
aggtggtgat acaaacaatg cagaaatcat agagcacgaa gaacaggatc caggccaggc
540

```

agacagaacc agcgagagac accagggagc tcagcagcat caggacagag gccagcgtg  
 600  
 tccgcaggca acctaacaat agctgtagtg tgtagaagat gcaaccgaat atgctgttgg  
 660  
 attgattgag gatgctgtcc tgtcccagca catgctccac cagcccgaaa cccctgcccc  
 720  
 acctggagga gaagacgcgc gaacagctga tggcgggtgcc cacgtcgag agcgcgcggt  
 780  
 aatcccggtc ccgggcgcgc gccgccttca cgtgcagcgc gtagagcgag agcactaagc  
 840  
 ccgtcaggca aagagcgagc cgcaccacgc cagggctccc ccaggtgctg cccattatct  
 900  
 ccaggttccg cccgaggcgc ccgcggagaa aaccagccac ggagcagggg ccgggcggcg  
 960  
 aatggccgcy cccctctctg ccctctgact cggcgattgg ccggccgtgc tcgcactcca  
 1020  
 cgacccaaat ggctgttcca gggcgctagt caagcgggcg agttaggaaa acagcgaaga  
 1080  
 atgccgggac tagtgaagcg ggtaagggac gtgc  
 1114

<210> 4460

<211> 121

<212> PRT

<213> Homo sapiens

<400> 4460

Trp	Arg	Cys	Pro	Arg	Arg	Ala	Arg	Gly	Asn	Pro	Gly	Pro	Gly	Arg
1				5				10					15	
Ala	Pro	Pro	Ser	Arg	Ala	Ala	Arg	Arg	Ala	Arg	Ala	Leu	Ser	Pro
			20					25				30		Ser
Gly	Lys	Glu	Arg	Ala	Ala	Pro	Ser	Gln	Gly	Ser	Pro	Arg	Cys	Cys
		35					40					45		Pro
Leu	Ser	Pro	Gly	Ser	Ala	Arg	Gly	Ala	Arg	Gly	Glu	Asn	Gln	Pro
		50				55				60				Arg
Ser	Arg	Gly	Arg	Ala	Ala	Asn	Gly	Arg	Ala	Pro	Pro	Gly	Pro	Leu
65					70					75				80
Arg	Arg	Leu	Ala	Gly	Arg	Ala	Arg	Thr	Pro	Arg	Pro	Lys	Trp	Leu
			85						90				95	Phe
Gln	Gly	Ala	Ser	Gln	Ala	Gly	Glu	Leu	Gly	Lys	Gln	Arg	Arg	Met
			100					105					110	Pro
Gly	Leu	Val	Lys	Arg	Val	Arg	Asp	Val						
		115					120							

<210> 4461

<211> 488

<212> DNA

<213> Homo sapiens

<400> 4461

acagagtcct acaccagcac tgcaatggcc cccaagggca tcttctgtaa cccgtacaac  
 60  
 aatctgatct tcattctggg caacttctct ctgcagagct ctaacaagga aaacttcac  
 120

tacctggcag acttcccca ggaactgtcc atcaaataca tggccagatc gttccgtggg  
 180  
 gctgtggcta ttgtcacaga gacggaggag gtgggctgcc ccgcccttct cccattccc  
 240  
 tctctgcccc cccccaacc ccagggggcc ctctttcccc cgtcacagta aaggagccaa  
 300  
 gggaaggggg caccctcggg gaccctgaga aagggcagtg aagctocatt tataactgaa  
 360  
 actcctggaa ctcagggtaa gtgtcagctc caaagtcacg cagaccggag ctatgatccg  
 420  
 atgttcagag gcggccctct ttcattccac agtgtggtcg ttcacttcat.aaatattgag  
 480  
 catttaaa  
 488

<210> 4462  
 <211> 96  
 <212> PRT  
 <213> Homo sapiens

<400> 4462.  
 Thr Glu Ser Tyr Thr Ser Thr Ala Met Ala Pro Lys Gly Ile Phe Cys  
 1 5 10 15  
 Asn Pro Tyr Asn Asn Leu Ile Phe Ile Trp Gly Asn Phe Leu Leu Gln  
 20 25 30  
 Ser Ser Asn Lys Glu Asn Phe Ile Tyr Leu Ala Asp Phe Pro Lys Glu  
 35 40 45  
 Leu Ser Ile Lys Tyr Met Ala Arg Ser Phe Arg Gly Ala Val Ala Ile  
 50 55 60  
 Val Thr Glu Thr Glu Glu Val Gly Cys Pro Ala Leu Leu Pro Ile Pro  
 65 70 75 80  
 Ser Leu Pro Thr Pro Lys Pro Gln Gly Pro Leu Phe Pro Pro Ser Gln  
 85 90 95

<210> 4463  
 <211> 2662  
 <212> DNA  
 <213> Homo sapiens

<400> 4463  
 nccacctcc ctctcatggc tagtaggaga gactggtgct tgccccgcc ggtggactaa  
 60  
 ctgccttaat tttaaataaa aagtcgagga cacggcggtc gttttcccga agacatgggc  
 120  
 cctcccatgg gccatttgct ccctggaggc cctcgcgtct tgctgagccc ggggagttag  
 180  
 gatgacgcga gcggtgaggg aaccgcgaac aattccttca cagaacaatt gaggcgaggc  
 240  
 ctttgggagt actttgtggg acggaccctg gcgggccctg ccagacgcac agggatggcg  
 300  
 gcggagggcg ccgatttggg gctggggggc gccgtccccg tggagctgag gcgggagcga  
 360  
 cgcattggtg gcgtggagta cccgggagtg gtgcgtgatg tggctaagat gctgccgact  
 420

ctgggcggtg aggaaggcgt ctcccgatc tacgcagacc ccaccaagag gctggagctg  
480  
tacttcggc ccaaggaccc atactgccac ccagtgtgcg ccaaccgctt cagtaccagc  
540  
agcctgctgc tccgcatcag gaagagaacg aggcggcaga aaggggtgct gggcactgag  
600  
gcccactccg aggtcacatt tgacatggag atccttggca tcatctccac catttacaaa  
660  
tttcagggga tgtctgactt ccagtacttg gctgtgcata cggaagcagg cggcaagcat  
720  
acgtcaatgt atgacaagg tctcatgctc cgccccgaga aggaggcctt tttccaccag  
780  
gagctgccgc tctacatccc cccaccatc ttctccggc tggacgcccc ggtggactac  
840  
ttctaccgac cagagaccca gcaccggga ggctacaaca atcccccat ctcaggtgag  
900  
aatctgattg gcctgagcag agcccgccgc cccacaatg ccatctttgt caactttgag  
960  
gatgaggagg tgcccaagca gccactggag gctgcagccc agacgtggag gagagtctgc  
1020  
actaaccg tggaccggaa ggtggaggag gagctgagga agctgtttga catccgtccc  
1080  
atctggtccc gaaatgctgt caaggccaac atcagcgtcc acccagacaa gctcaaggtc  
1140  
ttgcttcct tcatagccta ttacatgata acaggccctt ggcgcagcct atggattcga  
1200  
tttgggtatg acccccga aaaccagat gccaaagatt atcaagtcct cgatttccga  
1260  
atccgttgtg gaatgaaaca cggttacgcc ccagtgact tgccgggtcaa agcaaagcgc  
1320  
agcacctaca actacagcct ccccatcacc gtcaagaaga catccagcca gcttgtcacc  
1380  
atgcatgacc tgaagcagg cctgggcccg tcggggacga gtggtgctcg gaaaccagct  
1440  
tccagcaagt acaagctcaa ggactctgtc tacatcttc ggaaggggc cttgccaccc  
1500  
tatcggcaga tgttctacca gttatgcgac ttgaatgtgg aagagttgca gaagatcatt  
1560  
caccgcaatg acggggcaga gaattcctgc acagaacggg atgggtggtg cctccccaag  
1620  
accagcgacg agctcagga caccatgtcc ctcatgatcc ggcagacat ccgctccaag  
1680  
aggcctgctc tcttttccag ctcagccaag gctgatggcg gaaaagagca gctgacgtac  
1740  
gagctctggg aagacgagga ggatgaggag gaggaggaag aggaggagga ggacttcaag  
1800  
ccatccgacg gcagtgaaaa cgaaatggag acagagattc tggactacgt gtgacagggc  
1860  
ccaaggctgg gcctccctga cccggccaga ctggtgtctg gcctaagtag ggagccgggg  
1920  
ctcccattg ccaccacag tgccgggaat ggccctagga ggccctctga ggagagctag  
1980  
agtcccagca aagggtgcag ctgaccctag cactggctgt gacatgctgc ttggtgctgc  
2040



ctctggctct gaggggtag ggacatcccc aaagggata ccctggctct gccacccatg  
 2100  
 aaccagccca gcatccagcc agtgagtggg cacccaatgc ctctcaggat gagaccagta  
 2160  
 aatgccggag gtggagctgg gcagctgtgg agccccaggc cacaggccag tctcgcttgg  
 2220  
 ctctcatgac tgtggtggtg gagatagcgt ggggagcctc gcccatggtc tcacgtggca  
 2280  
 agaagtgcct ttagctctgg atcccaaccg tttggcacag ctttggccac agccaggccc  
 2340  
 ctctggaatt gtccttatta aaccagtttc ccgagaagtc ttggtttctt ggtgtgaatg  
 2400  
 ttggcgctgc aggggagtct tcttattgcc ttggggcttg ggcccccttt gtcccttcat  
 2460  
 atattccttc attcattcct tcattcattc agtgacatgc tggcagtgc ggccgtgtgc  
 2520  
 cccctcacat gtggtcgggt tgggtgaggg cagctaggaa gactccaggg gctgggtcag  
 2580  
 ttcttctcta aatgaatacc cttctgacga agtcatggga gacggggcct gctgtcctgt  
 2640  
 gggctgccag tgtgaaacta gt  
 2662

<210> 4464

<211> 519

<212> PRT

<213> Homo sapiens

<400> 4464

Met	Ala	Ala	Glu	Ala	Ala	Asp	Leu	Gly	Leu	Gly	Ala	Ala	Val	Pro	Val
1			5					10					15		
Glu	Leu	Arg	Arg	Glu	Arg	Arg	Met	Val	Cys	Val	Glu	Tyr	Pro	Gly	Val
		20						25					30		
Val	Arg	Asp	Val	Ala	Lys	Met	Leu	Pro	Thr	Leu	Gly	Gly	Glu	Glu	Gly
		35					40					45			
Val	Ser	Arg	Ile	Tyr	Ala	Asp	Pro	Thr	Lys	Arg	Leu	Glu	Leu	Tyr	Phe
	50					55					60				
Arg	Pro	Lys	Asp	Pro	Tyr	Cys	His	Pro	Val	Cys	Ala	Asn	Arg	Phe	Ser
65					70					75				80	
Thr	Ser	Ser	Leu	Leu	Leu	Arg	Ile	Arg	Lys	Arg	Thr	Arg	Arg	Gln	Lys
			85					90						95	
Gly	Val	Leu	Gly	Thr	Glu	Ala	His	Ser	Glu	Val	Thr	Phe	Asp	Met	Glu
		100						105					110		
Ile	Leu	Gly	Ile	Ile	Ser	Thr	Ile	Tyr	Lys	Phe	Gln	Gly	Met	Ser	Asp
		115					120					125			
Phe	Gln	Tyr	Leu	Ala	Val	His	Thr	Glu	Ala	Gly	Gly	Lys	His	Thr	Ser
	130					135					140				
Met	Tyr	Asp	Lys	Val	Leu	Met	Leu	Arg	Pro	Glu	Lys	Glu	Ala	Phe	Phe
145				150						155				160	
His	Gln	Glu	Leu	Pro	Leu	Tyr	Ile	Pro	Pro	Pro	Ile	Phe	Ser	Arg	Leu
			165					170						175	
Asp	Ala	Pro	Val	Asp	Tyr	Phe	Tyr	Arg	Pro	Glu	Thr	Gln	His	Arg	Glu
		180						185					190		
Gly	Tyr	Asn	Asn	Pro	Pro	Ile	Ser	Gly	Glu	Asn	Leu	Ile	Gly	Leu	Ser

```

      195              200              205
Arg Ala Arg Arg Pro His Asn Ala Ile Phe Val Asn Phe Glu Asp Glu
  210              215              220
Glu Val Pro Lys Gln Pro Leu Glu Ala Ala Ala Gln Thr Trp Arg Arg
  225              230              235              240
Val Cys Thr Asn Pro Val Asp Arg Lys Val Glu Glu Glu Leu Arg Lys
      245              250              255
Leu Phe Asp Ile Arg Pro Ile Trp Ser Arg Asn Ala Val Lys Ala Asn
      260              265              270
Ile Ser Val His Pro Asp Lys Leu Lys Val Leu Leu Pro Phe Ile Ala
      275              280              285
Tyr Tyr Met Ile Thr Gly Pro Trp Arg Ser Leu Trp Ile Arg Phe Gly
      290              295              300
Tyr Asp Pro Arg Lys Asn Pro Asp Ala Lys Ile Tyr Gln Val Leu Asp
  305              310              315              320
Phe Arg Ile Arg Cys Gly Met Lys His Gly Tyr Ala Pro Ser Asp Leu
      325              330              335
Pro Val Lys Ala Lys Arg Ser Thr Tyr Asn Tyr Ser Leu Pro Ile Thr
      340              345              350
Val Lys Lys Thr Ser Ser Gln Leu Val Thr Met His Asp Leu Lys Gln
      355              360              365
Gly Leu Gly Arg Ser Gly Thr Ser Gly Ala Arg Lys Pro Ala Ser Ser
  370              375              380
Lys Tyr Lys Leu Lys Asp Ser Val Tyr Ile Phe Arg Glu Gly Ala Leu
  385              390              395              400
Pro Pro Tyr Arg Gln Met Phe Tyr Gln Leu Cys Asp Leu Asn Val Glu
      405              410              415
Glu Leu Gln Lys Ile Ile His Arg Asn Asp Gly Ala Glu Asn Ser Cys
      420              425              430
Thr Glu Arg Asp Gly Trp Cys Leu Pro Lys Thr Ser Asp Glu Leu Arg
      435              440              445
Asp Thr Met Ser Leu Met Ile Arg Gln Thr Ile Arg Ser Lys Arg Pro
      450              455              460
Ala Leu Phe Ser Ser Ser Ala Lys Ala Asp Gly Gly Lys Glu Gln Leu
  465              470              475              480
Thr Tyr Glu Ser Gly Glu Asp Glu Glu Asp Glu Glu Glu Glu Glu
      485              490              495
Glu Glu Glu Asp Phe Lys Pro Ser Asp Gly Ser Glu Asn Glu Met Glu
      500              505              510
Thr Glu Ile Leu Asp Tyr Val
      515

```

<210> 4465  
 <211> 1291  
 <212> DNA  
 <213> Homo sapiens

<400> 4465  
 gggctggagc gccaggttcg ggccgagatc gagcacaaga aggaggagct gcggcagatg  
 60  
 gtggggaac ggtaccgcga cctgatcgag gcgnccgaca ccatcgcca gatgcgccg  
 120  
 ngcgccgtgg ggctagtggg cgccgtgaag gccaccgacc agtactgcgc ccgcctccgc  
 180

caggccggct cggccgcgcc ccggccaccg cgggcccagc agccacagca gccatcccaa  
 240  
 gagaagtctt acagcatggc tgccagatca agctactctt agaaattccg gagaagatct  
 300  
 ggagctcgat ggaagcctct cagtgtctcc acgccacacn agctctacct gctctgctgc  
 360  
 cacctccaca gcctgctcca gctggattct tctagttccc gatacagtcc cgctctctcc  
 420  
 cggtttctta tactcatccg gcaggtggcg gccgccagcc acttccggtc aactattctg  
 480  
 catgaaagca agatgttgct caaatgccaa ggtgtgtctg accaagctgt ggccgaggcc  
 540  
 ctgtgtctta taatgtctctt agaagagagt tctcctcgcc aagccctcac agacttctg  
 600  
 ctggccagaa aggcaactat tcagaaactt ctcaaccagc cacaccatgg tgctgggtatc  
 660  
 aaggctcaga tttgctcatt agtggagttg ctggccacca ctctgaagca agctcatgcc  
 720  
 cttttctaca ctttgccaga aggactgctg ccagatccag ccctgccatg tggcttgctc  
 780  
 ttctctactc tggagaccat cacaggccag catcctgccg gaaagggcac tgggtgctctg  
 840  
 caggaagaga tgaaactctg cagctggttt aaacacctgc cagcatccat cgctgagttc  
 900  
 cagccaacac tccgaaccct tgcacatccc atcagtcagg aatacctgaa agacacgctg  
 960  
 cagaaatgga tccacatgtg taatgaagac attaaaaatg ggatcaccaa cctgctcatg  
 1020  
 tacgtgaaga gcatgaaggg tctcgcggga atccgggacg ccattgtggga gttacttacc  
 1080  
 agtgagtcca ccaatcacag ctgggatgtg ctatgtaccc gcnttctgga gaagccgctc  
 1140  
 ttgttctggg aagatatgat gcagcaactg ttccttgacc gattacagac tctgacaaaa  
 1200  
 gaaggctttg actccatctc cagtagtncc aaggagctct tggtttcang tttgcaggaa  
 1260  
 cttgaaagca gcaccagcaa ctcccacttc a  
 1291

&lt;210&gt; 4466

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4466

Gly	Leu	Glu	Arg	Gln	Val	Arg	Ala	Glu	Ile	Glu	His	Lys	Lys	Glu	Glu
1				5				10						15	
Leu	Arg	Gln	Met	Val	Gly	Glu	Arg	Tyr	Arg	Asp	Leu	Ile	Glu	Ala	Xaa
			20					25					30		
Asp	Thr	Ile	Gly	Gln	Met	Arg	Arg	Xaa	Ala	Val	Gly	Leu	Val	Asp	Ala
			35				40					45			
Val	Lys	Ala	Thr	Asp	Gln	Tyr	Cys	Ala	Arg	Leu	Arg	Gln	Ala	Gly	Ser
	50					55				60					
Ala	Ala	Pro	Arg	Pro	Pro	Arg	Ala	Gln	Gln	Pro	Gln	Gln	Pro	Ser	Gln

65		70		75		80
Glu	Lys	Phe	Tyr	Ser	Met	Ala
				Arg	Ser	Ser
		85		90		

<210> 4467  
 <211> 1142  
 <212> DNA  
 <213> Homo sapiens

<400> 4467  
 nnagatgtcc ctaaggtaga ggtgttgaa cgggagctgg cctggctgaa ggagcatctg  
 60  
 tcccagctgg agtccccctgt ggtgttttgt cacaatgacc tgctctgcaa gaatatcatc  
 120  
 tatgacagca tcaaagggtca cgtgcggttc attgactatg aatatgctgg ctacaactac  
 180  
 caagcttttg acattggcaa ccatttcaat gagtttgagc gcgtgaatga ggtggattac  
 240  
 tgctgtacc cggcgcggga gaccagctg cagtggctgc actactacct gcaggcacia  
 300  
 aaggggatgg ccgtgacccc cagggaggtg caaaggctct acgtgcaagt caacaagttt  
 360  
 gccctggcgt ctacttctt ctgggtctc tgggccctca tccagaacca gtactccacc  
 420  
 atcgactttg atttcctcag gtacgcagtg atccgattca accagtactt caaggtgaag  
 480  
 cctcaagcgt cagccttgga gatgccaaag tgaccagcca cccatccct cccctaccca  
 540  
 tctgtctggc cagacctgtt ctccagagct caattctgca ctctgggatc cacacccttg  
 600  
 gacaggggtg gagaggggac acatgggtgt ccagggagaa ggctctgtcc ctgccgccag  
 660  
 acccagtggt ttgccactga agacctcatt ctctgtctg gaggggctga taggaccccc  
 720  
 ttccgggggt ccccttcacc ccaccaggct tgggaggaag tgctgcagc caggtcctga  
 780  
 accataacca cccctgggaa acacatcatt cccagcctca ggccctgctg gaattggggc  
 840  
 tgccttatat gtgtgtttac ccttctctg cctggggaag gaggcgggga gggctccttt  
 900  
 ctacctcag tgccctgagc ctccagtcg tctccccctg catgccccat gtgggaggtg  
 960  
 ctgagctcca aaccagcatc acaccaactc tgacacatgg atgtacctat cttggtgatg  
 1020  
 ggtgggggcc aagaattgag catgacatct tcccagcag ccacctctc tgagatccct  
 1080  
 caccttctcc aaaccagatc caatcaaacc tcagcccgag gaaacatgct cccctcacgc  
 1140  
 gt  
 1142

<210> 4468  
 <211> 170  
 <212> PRT

<213> Homo sapiens

<400> 4468

```

Xaa Asp Val Pro Lys Val Glu Val Leu Glu Arg Glu Leu Ala Trp Leu
 1           5           10           15
Lys Glu His Leu Ser Gln Leu Glu Ser Pro Val Val Phe Cys His Asn
 20           25           30
Asp Leu Leu Cys Lys Asn Ile Ile Tyr Asp Ser Ile Lys Gly His Val
 35           40           45
Arg Phe Ile Asp Tyr Glu Tyr Ala Gly Tyr Asn Tyr Gln Ala Phe Asp
 50           55           60
Ile Gly Asn His Phe Asn Glu Phe Ala Gly Val Asn Glu Val Asp Tyr
 65           70           75           80
Cys Leu Tyr Pro Ala Arg Glu Thr Gln Leu Gln Trp Leu His Tyr Tyr
 85           90           95
Leu Gln Ala Gln Lys Gly Met Ala Val Thr Pro Arg Glu Val Gln Arg
 100          105          110
Leu Tyr Val Gln Val Asn Lys Phe Ala Leu Ala Ser His Phe Phe Trp
 115          120          125
Ala Leu Trp Ala Leu Ile Gln Asn Gln Tyr Ser Thr Ile Asp Phe Asp
 130          135          140
Phe Leu Arg Tyr Ala Val Ile Arg Phe Asn Gln Tyr Phe Lys Val Lys
 145          150          155          160
Pro Gln Ala Ser Ala Leu Glu Met Pro Lys
 165          170

```

<210> 4469

<211> 409

<212> DNA

<213> Homo sapiens

<400> 4469

```

atctatgatg cacaacatgc caatttggtt ggcacgctga ggggccatgc ctctgggtg
60
ctgaacgttg cattctgtcc tgatgacact cactttgttt ccagatccca gtgttggtca
120
ggcctgggat ggccaagaca gttggaaagc aggagatgga caacttgaag gcattgcaca
180
gtgctttaga ggctcctgc gagccttgggt tttgaagctt taacaggcct ccctcccatc
240
tggaatatag tagctgtgtc tgagactcct ggagaacaat taatatgagg gccaggcaga
300
tcacaatttc aggaaaatgg ctaccctgtg aggagagaaa gccaccaat gatgctgata
360
cctggccatt tcctgtaccg aggcattgng ttggggggtc tgaagttag
409

```

<210> 4470

<211> 55

<212> PRT

<213> Homo sapiens

<400> 4470

```

Ile Tyr Asp Ala Gln His Ala Asn Leu Ala Gly Thr Leu Ser Gly His

```

1	5	10	15
Ala Ser Trp Val Leu Asn Val Ala Phe Cys Pro Asp Asp Thr His Phe			
	20	25	30
Val Ser Arg Ser Gln Cys Trp Ser Gly Leu Gly Trp Pro Arg Gln Leu			
	35	40	45
Glu Ser Arg Arg Trp Thr Thr			
50	55		

&lt;210&gt; 4471

&lt;211&gt; 1771

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4471

```

ctgggcccc atcaccacgc tgtgctcccc acaccgcaa ggctccccct cctcagcctt
60
agtttctct tctggaaatt ggggaatctt catgtcacct tcttgacagc atttgccagg
120
catccagcag gcgcttaata aatggccaag tcattgtttg ggtttctaaa taaggctctc
180
ctaattggcg ggtctggcca cggctccagt gtccctgggc agccctccga ggggccggca
240
cagggcgcac tataaatgag cggtgcgca cgcaggggca ctgcaacgcg gaggagcagg
300
atggagatcc ctgtgcctgt gcagccgtct tggctgcgcc gcgcctcggc cccgttgccc
360
ggactttcgg cgcgcggacg cctctttgac cagcgcttcg gcgaggggct gctggaggcc
420
gagctggctg cgctctgccc caccacgctc gcccctact acctgcgcgc acccagcgtg
480
gcgtgcccc tcgcccaggt gccgacggac cccggccact ttctgggtgt gctagacgtg
540
aagcacttct cgccggagga aattgctgtc aagggtgtgg gcgaacacgt ggaggtgcac
600
gcgcgccacg aggagcgcgc ggatgagcac ggattcgtcg cgcgcgagtt ccaccgtcgc
660
taccgcctgc cgctggcgt ggatccggct gccgtgacgt ccgcgctgtc ccccgagggc
720
gtcctgtcca tccaggcgc acccagcgtc gcccaggccc caccgccagc cgcagccaag
780
taggaggggg ctgggcccgc cccgcacccc gggagcctcc tcaggctccc tctattaaag
840
ccgatctgac tccgccagc cagatgtccc gagtgcgcca aggactgtcc tctcaccac
900
tcttggttc tgccctgacc tccatcctgg aactgcctt gataacatag acccttcac
960
tgacaccctc gctctcacac cccctccagc tttccgacct cacaccgaca actccccggc
1020
ttccagaccc taccagcact accctaacct tcagccgaca gtctcagccc caccgaccca
1080
ctttcttggc atatagcccc acttaagacc cctcctctac ttccttctga gtcctctaca
1140
aagacatccg ggtactacat ttccatccct tccctatttt gacaccaa at tatgggtgtag
1200

```

acagccctcc cccaacccca ggccagtcag gcacaatccc cccacccccc aaacgtcctg  
 1260  
 gactgcacag acctcccact ccagaccatc caggcctggt tcccaagacc cgatccttcc  
 1320  
 cctgcaacca gacagtctac aactgcccc tccagcccat tttctgccgt gaaaccccag  
 1380  
 ccagccacac cagactctgg aacccttttt cgactgcccc aactcttgga caccaggcca  
 1440  
 actagaacac ccaacaccaa actgtacaga ctctcccacc ccaacctccc cagactctgc  
 1500  
 acggatgtcc taggccccct ccccaactct aaccagaccc catcccccta agtccctttg  
 1560  
 tcttgacccc caagtcttca accagatatc ctctggcaacc cacctcccac cctcctctc  
 1620  
 ttctccttca agacccaact gagcaccgcg tctgattccc cacagccttt ctccctgcca  
 1680  
 ccactccctt agtctttccc aggttactc tcccaataaa tgtgctagag ctctgcca  
 1740  
 aaaagaaaaa aaagtcgacg cggccggaat t  
 1771

<210> 4472

<211> 160

<212> PRT

<213> Homo sapiens

<400> 4472

Met	Glu	Ile	Pro	Val	Pro	Val	Gln	Pro	Ser	Trp	Leu	Arg	Arg	Ala	Ser
1				5					10					15	
Ala	Pro	Leu	Pro	Gly	Leu	Ser	Ala	Pro	Gly	Arg	Leu	Phe	Asp	Gln	Arg
			20					25					30		
Phe	Gly	Glu	Gly	Leu	Leu	Glu	Ala	Glu	Leu	Ala	Ala	Leu	Cys	Pro	Thr
		35					40					45			
Thr	Leu	Ala	Pro	Tyr	Tyr	Leu	Arg	Ala	Pro	Ser	Val	Ala	Leu	Pro	Val
	50					55					60				
Ala	Gln	Val	Pro	Thr	Asp	Pro	Gly	His	Phe	Ser	Val	Leu	Leu	Asp	Val
65					70					75				80	
Lys	His	Phe	Ser	Pro	Glu	Glu	Ile	Ala	Val	Lys	Val	Val	Gly	Glu	His
			85						90					95	
Val	Glu	Val	His	Ala	Arg	His	Glu	Glu	Arg	Pro	Asp	Glu	His	Gly	Phe
			100						105				110		
Val	Ala	Arg	Glu	Phe	His	Arg	Arg	Tyr	Arg	Leu	Pro	Pro	Gly	Val	Asp
		115						120				125			
Pro	Ala	Ala	Val	Thr	Ser	Ala	Leu	Ser	Pro	Glu	Gly	Val	Leu	Ser	Ile
	130					135					140				
Gln	Ala	Ala	Pro	Ala	Ser	Ala	Gln	Ala	Pro	Pro	Pro	Ala	Ala	Ala	Lys
145					150					155					160

<210> 4473

<211> 1255

<212> DNA

<213> Homo sapiens

<400> 4473

gccggcgcgga tgccccgccc ctccgatagc tcctctttgc gcgccgcagt cgcgcgggagc  
 60  
 ccggcttccg acgtgcagcc tggcagtgca gtgagctgtc tggccttttg tccttgatcc  
 120  
 ttgggtaagg aaatgaccaa ccagtacggt attctcttca aacaagagca agcccatgat  
 180  
 gatgccattt ggtcagttgc ttgggggaca aacaagaagg aaaactctga gacagtgggc  
 240  
 acaggctccc tagatgacct ggtgaaggtc tggaaatggc gtgatgagag gctggacctc  
 300  
 cagtggagtc tggagggaca tcagctggga gtggtgtctg tggacatcag ccacaccctt  
 360  
 cccattgctg cctccagttc tctagatgct catattcgac tctgggactt ggaaaatggc  
 420  
 aaacagatga agtctataga tgcaggaccg gtggatgcct ggactttggc attctctccg  
 480  
 gactcccagc atctggcaac aggaactcac atggggaaaag tgaacatttt tgggtgga  
 540  
 agtggaaaaa aagaatactc tttggacact agaggaaaat tcctccttag tattgcatat  
 600  
 agtctgatg gaaaatacct ggccagcggg gccatagatg gaatcatcaa ttttttgat  
 660  
 attgcaactg gaaaacttct gcataccctg gaaggccatg ccatgcccac tcgctccttg  
 720  
 accttttccc cggactccca gctccttgtc actgcttcag atgatggcta catcaagatc  
 780  
 tatgatgtac aacatgccaa tttggctggc acgctgagcg gccatgcctc ctgggtgctg  
 840  
 aacgttgcat tctgtcctga tgacactcac tttgtttcca gttcgtctga caaaagtgtc  
 900  
 aaagtgtggg atgttggaac gaggacttgt gttcacacct tctttgatca ccaggatcag  
 960  
 gtctggggag taaaatacaa tggaaatggt tcaaaaattg tgtctgttgg agatgaccag  
 1020  
 gaaattcaca tctatgattg tccaatttaa acatcaaagt ctccaggctt atgctgcaaa  
 1080  
 gagaatgtac ggattgatca tgacattcct taccttctta ggcttgctta aaagaaatat  
 1140  
 agcatttatt gtagcaaaga cttaaatttt gtagatacaa tatgaatctt ttcattgttt  
 1200  
 attggaaatg ctgttcatac tttaacataa agctttctta atgcaaaaaa aaaaa  
 1255

<210> 4474

<211> 305

<212> PRT

<213> Homo sapiens

<400> 4474

Met	Thr	Asn	Gln	Tyr	Gly	Ile	Leu	Phe	Lys	Gln	Glu	Gln	Ala	His	Asp
1				5					10					15	
Asp	Ala	Ile	Trp	Ser	Val	Ala	Trp	Gly	Thr	Asn	Lys	Lys	Glu	Asn	Ser
		20						25					30		
Glu	Thr	Val	Val	Thr	Gly	Ser	Leu	Asp	Asp	Leu	Val	Lys	Val	Trp	Lys



35 40 45  
 Trp Arg Asp Glu Arg Leu Asp Leu Gln Trp Ser Leu Glu Gly His Gln  
 50 55 60  
 Leu Gly Val Val Ser Val Asp Ile Ser His Thr Leu Pro Ile Ala Ala  
 65 70 75 80  
 Ser Ser Ser Leu Asp Ala His Ile Arg Leu Trp Asp Leu Glu Asn Gly  
 85 90 95  
 Lys Gln Met Lys Ser Ile Asp Ala Gly Pro Val Asp Ala Trp Thr Leu  
 100 105 110  
 Ala Phe Ser Pro Asp Ser Gln His Leu Ala Thr Gly Thr His Met Gly  
 115 120 125  
 Lys Val Asn Ile Phe Gly Val Glu Ser Gly Lys Lys Glu Tyr Ser Leu  
 130 135 140  
 Asp Thr Arg Gly Lys Phe Ile Leu Ser Ile Ala Tyr Ser Pro Asp Gly  
 145 150 155 160  
 Lys Tyr Leu Ala Ser Gly Ala Ile Asp Gly Ile Ile Asn Ile Phe Asp  
 165 170 175  
 Ile Ala Thr Gly Lys Leu Leu His Thr Leu Glu Gly His Ala Met Pro  
 180 185 190  
 Ile Arg Ser Leu Thr Phe Ser Pro Asp Ser Gln Leu Leu Val Thr Ala  
 195 200 205  
 Ser Asp Asp Gly Tyr Ile Lys Ile Tyr Asp Val Gln His Ala Asn Leu  
 210 215 220  
 Ala Gly Thr Leu Ser Gly His Ala Ser Trp Val Leu Asn Val Ala Phe  
 225 230 235 240  
 Cys Pro Asp Asp Thr His Phe Val Ser Ser Ser Ser Asp Lys Ser Val  
 245 250 255  
 Lys Val Trp Asp Val Gly Thr Arg Thr Cys Val His Thr Phe Phe Asp  
 260 265 270  
 His Gln Asp Gln Val Trp Gly Val Lys Tyr Asn Gly Asn Gly Ser Lys  
 275 280 285  
 Ile Val Ser Val Gly Asp Asp Gln Glu Ile His Ile Tyr Asp Cys Pro  
 290 295 300  
 Ile  
 305

&lt;210&gt; 4475

&lt;211&gt; 475

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4475

acgcgtgaac ccgtgagctt gggaggggat atcgccaag cgaggtctct ctgatccgc  
 60  
 tgggtgtccag actccttctg gagttccaat cccaccctg gcacactgtc catctctggc  
 120  
 tggctgtctg tgaagctgga gagccgtgca aggcgacaga gccttctgtg tggcccgctc  
 180  
 tggcgctctg gggcaagggc tgacttgagc tgcttcgtct gctcatctgc tgtctgccag  
 240  
 ctgccctcag acctcctcct ggggtgcagcc cgttcccact tgagagggag gtggtcttca  
 300  
 ctttaggggg taggcacatc cctgtttgct ccttgccccg acagcctcgt caatgcccag  
 360

ccacttctga gggctggagg gacaggaact tcctttcttc cccctttctg tctcctcgcg  
 420  
 tgggtacaaa agcacgtctg tagtccatgt gtgtgaagag aggacgcatt ctaga  
 475

<210> 4476  
 <211> 106  
 <212> PRT  
 <213> Homo sapiens

<400> 4476  
 Met Cys Leu Pro Pro Lys Val Lys Thr Thr Ser Leu Ser Ser Gly Asn  
 1 5 10 15  
 Gly Leu His Pro Gly Gly Gly Leu Arg Ala Ala Gly Arg Gln Gln Met  
 20 25 30  
 Ser Arg Arg Ser Ser Ser Gln Pro Leu Pro Gln Ser Ala Arg Thr  
 35 40 45  
 Gly His Thr Glu Gly Ser Val Ala Leu His Gly Ser Pro Ala Ser Arg  
 50 55 60  
 Gln Thr Ser Gln Arg Trp Thr Val Cys Gln Gly Trp Asp Trp Asn Ser  
 65 70 75 80  
 Arg Arg Ser Leu Asp Thr Ser Gly Ile Arg Glu Thr Ser Leu Gly Arg  
 85 90 95  
 Tyr Pro Leu Pro Ser Ser Arg Val His Ala  
 100 105

<210> 4477  
 <211> 1153  
 <212> DNA  
 <213> Homo sapiens

<400> 4477  
 ctcttggcct ggccctcctgc agtgccacgc tccgtgtatt tgacaagctg agttggacac  
 60  
 tccatgtggt agagtgtcag tttgtcaaat accccaagtg cggcacatgc ttaccagctc  
 120  
 taggccaggg cagatgggat atgacgaatg gactgccagc tggatacaag gatgtctacc  
 180  
 aagcaccaag ttctcacaag ttattttatg tgactttgca ggaactgagg cattatatct  
 240  
 gaggacacca ggggaaaagt gtggcatctc agggaaatac agccctgggc tgtgtctaca  
 300  
 cacaccatga gagtgtgat gggggcgcaa tagtcttgaa aatgtataaa gtgtccagga  
 360  
 atggaagtgc tctttgatc attattattt tcttccttca tattccctc ccagagtctc  
 420  
 ctatctagga catcagcatt ctcacacaag cctaattggct tatctgagta agcagggctt  
 480  
 agaaattcac tttcttgata ctacgtcttg ccttctaaac actccttgat ctgcctacc  
 540  
 tctccccctt tccacatgct ttttctgta ggaacacttt ctccatttat tcctgcctat  
 600  
 ccaattcttc cctatatttc ctggaccagc taaagtccag tgtttccaga gacttttgaa  
 660

agtcaactta cactttttcc ttcttcattc acaaagctct tcttccttgg gccctgggat  
 720  
 gtatgccttt ctctcctact gtctaatagc acctcgtaaa ttgtcaatga actttttctaa  
 780  
 ggggtattct tgaattccca actagattgt gagcttctgg aagacaaggc tatgtctttg  
 840  
 attgttgtct cccctaccac agcccagtac tttagttaca gaaaataata aatattttact  
 900  
 gattgattga ctttcctctt gtccactagc tttaggtttg ggggccaat tctaccctgg  
 960  
 attttgaaaa attcaaactg tgaacaccac aatgttatag agcatatgag gtagtagcca  
 1020  
 gcatgaagga tgttttcttc ctgagaaaaca gtgtcaaggg ctggaggaag agggcaaat  
 1080  
 agcagactca gagggcaaat aaattttggg attacttggg cacacaaggt tatacagggtg  
 1140  
 ttttcttgta gga  
 1153

<210> 4478

<211> 118

<212> PRT

<213> Homo sapiens

<400> 4478

Met	Trp	Lys	Arg	Gly	Glu	Val	Gly	Lys	Ile	Lys	Glu	Cys	Leu	Glu	Gly
1				5				10					15		
Lys	Thr	Glu	Tyr	Gln	Glu	Ser	Glu	Phe	Leu	Ser	Pro	Ala	Tyr	Ser	Asp
		20						25					30		
Lys	Pro	Leu	Gly	Leu	Cys	Glu	Asn	Ala	Asp	Val	Leu	Asp	Arg	Arg	Leu
		35					40					45			
Trp	Glu	Gly	Asn	Met	Lys	Glu	Glu	Asn	Asn	Asn	Glu	Ser	Lys	Ser	Thr
		50				55					60				
Ser	Ile	Pro	Gly	His	Phe	Ile	His	Phe	Gln	Asp	Tyr	Cys	Ala	Pro	Ile
65				70					75					80	
Ser	Thr	Leu	Met	Val	Cys	Val	Asp	Thr	Ala	Gln	Gly	Cys	Ile	Ser	Leu
			85					90					95		
Arg	Cys	His	Thr	Phe	Pro	Leu	Val	Ser	Ser	Asp	Ile	Met	Pro	Gln	Phe
		100						105					110		
Leu	Gln	Ser	His	Ile	Lys										

<210> 4479

<211> 2158

<212> DNA

<213> Homo sapiens

<400> 4479

nngcggcggc ctgcggcggg ttcggtgggc ccaatcccgg ggcggtgcgg ctgtttcggg  
 60  
 cgcgggcccc gcttttcgcg accctgctcc ggctcgact acggcgagcc tgagcgcggc  
 120  
 ggcggccac gcgcagcaca gggagagatg agcagcacca gcagtaagag ggctccgacc  
 180

acggcaaccc agaggctgaa gcaggactac cttcgcatta agaaagaccc ggtgccttac  
240  
atctgtgccg agccccctccc ttcgaatatt ctcgagtggc actatgtcgt ccgaggccca  
300  
gagatgaccc cttatgaagg tggctattac catggaaaac taatttttcc cagagaattt  
360  
cctttcaaac ctcccagtat ctatatgata actoccaaag ggagggttaa gtgcaacacc  
420  
aggctgtgtc tttctatcac ggatttccac ccggacacgt ggaacccggc ctggtctgtc  
480  
tcaccatcc tgactgggct cctgagcttc atggtggaga agggcccccac cctgggcagt  
540  
atagagacgt cggacttcac gaaaagacaa ctggcagtgc agagtttagc atttaatttg  
600  
aaagataaag tcttttgtga attatttctc gaagtcgtgg aggagattaa acaaaaacag  
660  
aaagcacaaag acgaactcag tagcagaccg cagactctcc ccttgccaga cgtgggtcca  
720  
gacggggaga cgcacctcgt ccagaacggg attcagctgc tcaacgggca tgcgccgggg  
780  
gccgtcccaa acctcgcagg gctccagcag gccaacggc accacggact cctgggtggc  
840  
gccctggcga acttgtttgt gatagttggg tttgcagcct ttgcttacac ggtcaagtac  
900  
gtgctgagga gcatcgcgca ggagtgaggc ccaggcgccg agaccaagg cgccactgag  
960  
ggcaccgcgc accagagcgt gacctcggca ggctggacac actgcccagc acaggcagac  
1020  
ccaccaggct cctaggttta gcttttaaaa acctgaaagg ggaagcaaaa accaaaatgt  
1080  
gtgactgggc tttggaggag actggagcct cagccctgtc ctggccacgg gccgctgggg  
1140  
ctggtgtggg tgggccttgt gtgctggatt ttagcttat ctccgtgtt gtctttggac  
1200  
ctgttttagt aaaccgttt ttcattttat tagatgtggt cacttagaaa tgcaaacttg  
1260  
ctgccgaccg cgggctgtc ctgcgttctt ggagctcctg gcgcgtttct cggagctccc  
1320  
ggctcctcag cgggtgggaa cctcggggcc caggggtgga gctggcgtcc gcgggtgctg  
1380  
gtctggcctg gccgtgtggt gatgaggett agcggggcca gtgacggccg tggctcagga  
1440  
tccataagtc ggggtttggt ctacgattt acaaatgtgt ttacagtcag aatgaaacac  
1500  
attccttcta gaaagtgtt ggggtttttt gctgccctgg aagccaggag cctgctcact  
1560  
ccaaccacaa gtcgcccttg actgcggcgg ccgcgagcgg ggcgggggct gccggtgcc  
1620  
tcgcaggcc gggcctcctg ggcgccctc ggtgctgcag gctggggggc cttgggtacc  
1680  
tgacagcct tttctctgaa ttccttatgt ccggtgggccc agaagcccgt cctcctatgc  
1740  
tggtggaagg cggaggaccg gagtccctgc agaaggcccc gtgcactcgg gggcctccct  
1800

cacatcccggt gccccctgcg ctggccttca cagtaggtaa tggtccggc ccgggtgttc  
 1860  
 gctgtccacg gaacatggca gaggggcacc ccggcccga aagacgccag agccagcagg  
 1920  
 ggctgtttcg ggccgcgtgg ctccccgggt ctgggccgtc tccccctcttc tgcgtctgtt  
 1980  
 ccgtgacttc gcctgggtgg gatgtaccgc aggtgcatcg cgtcgagggtg gggcacggcc  
 2040  
 gccggcaaga aaccaccct gtccggaggc gggcgtgaga caagcccagc ccgcacgcgc  
 2100  
 tcattctttct tcgttttttg atcagtttat tcagaattgc tctataattt accaattg  
 2158

<210> 4480

<211> 308

<212> PRT

<213> Homo sapiens

<400> 4480

Xaa	Arg	Arg	Pro	Ala	Ala	Gly	Ser	Val	Gly	Pro	Ile	Pro	Gly	Arg	Cys
1			5						10					15	
Gly	Cys	Phe	Gly	Arg	Gly	Pro	Arg	Phe	Ser	Ala	Pro	Cys	Ser	Gly	Leu
		20						25					30		
Asp	Tyr	Gly	Glu	Pro	Glu	Arg	Gly	Gly	Gly	Pro	Arg	Ala	Ala	Gln	Gly
		35					40					45			
Glu	Met	Ser	Ser	Thr	Ser	Ser	Lys	Arg	Ala	Pro	Thr	Thr	Ala	Thr	Gln
	50					55				60					
Arg	Leu	Lys	Gln	Asp	Tyr	Leu	Arg	Ile	Lys	Lys	Asp	Pro	Val	Pro	Tyr
65					70					75				80	
Ile	Cys	Ala	Glu	Pro	Leu	Pro	Ser	Asn	Ile	Leu	Glu	Trp	His	Tyr	Val
			85						90					95	
Val	Arg	Gly	Pro	Glu	Met	Thr	Pro	Tyr	Glu	Gly	Gly	Tyr	Tyr	His	Gly
		100						105					110		
Lys	Leu	Ile	Phe	Pro	Arg	Glu	Phe	Pro	Phe	Lys	Pro	Pro	Ser	Ile	Tyr
		115					120					125			
Met	Ile	Thr	Pro	Asn	Gly	Arg	Phe	Lys	Cys	Asn	Thr	Arg	Leu	Cys	Leu
	130					135					140				
Ser	Ile	Thr	Asp	Phe	His	Pro	Asp	Thr	Trp	Asn	Pro	Ala	Trp	Ser	Val
145					150					155				160	
Ser	Thr	Ile	Leu	Thr	Gly	Leu	Leu	Ser	Phe	Met	Val	Glu	Lys	Gly	Pro
			165						170					175	
Thr	Leu	Gly	Ser	Ile	Glu	Thr	Ser	Asp	Phe	Thr	Lys	Arg	Gln	Leu	Ala
		180						185					190		
Val	Gln	Ser	Leu	Ala	Phe	Asn	Leu	Lys	Asp	Lys	Val	Phe	Cys	Glu	Leu
		195					200					205			
Phe	Pro	Glu	Val	Val	Glu	Glu	Ile	Lys	Gln	Lys	Gln	Lys	Ala	Gln	Asp
	210					215						220			
Glu	Leu	Ser	Ser	Arg	Pro	Gln	Thr	Leu	Pro	Leu	Pro	Asp	Val	Val	Pro
225					230					235				240	
Asp	Gly	Glu	Thr	His	Leu	Val	Gln	Asn	Gly	Ile	Gln	Leu	Leu	Asn	Gly
			245						250					255	
His	Ala	Pro	Gly	Ala	Val	Pro	Asn	Leu	Ala	Gly	Leu	Gln	Gln	Ala	Asn
		260					265					270			
Arg	His	His	Gly	Leu	Leu	Gly	Gly	Ala	Leu	Ala	Asn	Leu	Phe	Val	Ile

275                      280                      285  
 Val Gly Phe Ala Ala Phe Ala Tyr Thr Val Lys Tyr Val Leu Arg Ser  
 290                      295                      300  
 Ile Ala Gln Glu  
 305

<210> 4481  
 <211> 320  
 <212> DNA  
 <213> Homo sapiens

<400> 4481  
 ggcaccctcg tggggatggg ctgtgcctgg aggctggggg gctgcctctg gacagcctct  
 60  
 ggggtggggcc tcggaacctc ctgctgtgca gccagaaaac aggactcggc ctgtccaccc  
 120  
 acgtggggag gggaccccg gctggggcttc gtaggggctt caaggacccc tgacttctgg  
 180  
 ggtgtgcctg acagcagggg agggcccccaga gctggccttg gccatgtcca gtccttaatt  
 240  
 gacctttgtc ccttccttcc cctgcctctc tgtgcgtcgc tggactcgcc acgggagttc  
 300  
 tcacgaatgg gcaccaatt  
 320

<210> 4482  
 <211> 101  
 <212> PRT  
 <213> Homo sapiens

<400> 4482  
 Met Gly Cys Ala Trp Arg Leu Gly Gly Cys Ile Trp Thr Ala Ser Gly  
 1                      5                      10                      15  
 Trp Gly Leu Gly Thr Ser Cys Cys Ala Ala Arg Lys Gln Asp Ser Ala  
 20                      25                      30  
 Cys Pro Pro Thr Trp Gly Gly Asp Pro Gly Leu Gly Phe Val Gly Ala  
 35                      40                      45  
 Ser Arg Thr Pro Asp Phe Trp Gly Val Pro Asp Ser Arg Gly Gly Pro  
 50                      55                      60  
 Arg Ala Gly Leu Gly His Val Gln Ser Leu Ile Asp Leu Cys Pro Phe  
 65                      70                      75                      80  
 Leu Pro Leu Pro Leu Cys Ala Ser Leu Asp Ser Pro Arg Glu Phe Ser  
 85                      90                      95  
 Arg Met Gly Thr Gln  
 100

<210> 4483  
 <211> 1852  
 <212> DNA  
 <213> Homo sapiens

<400> 4483  
 nnggttgagg cgtgccggga gctgagttat agctgtgact tctgccttgc caggccgcac  
 60

acaagctggc tgacccgggt tgtaaaaatg gaatttcaag cagtagtgat ggcagtaggt  
120  
ggaggatctc ggatgacaga cctaacttcc agcattccca aacctctgct tccagttggg  
180  
aacaacacct taatttggtta ccattgaac ctgcttgagc gtgttggtt tgaagaagtc  
240  
attgtgggtta caaccaggga tgttcaaaag gctctatgtg cagaattcaa gatgaaaatg  
300  
aagccagata ttgtgtgtat tcttgatgac gctgacatgg gaactgcaga ttctttgcgc  
360  
tacatatatc caaaacttaa gacagatgtg ctggtgctga gctgtgatct gataacagac  
420  
gttgccctac atgaggttgt ggacctgttt agagcttatg atgcatcact tgctatgttg  
480  
atgagaaaag gccaaagatag catagaacct gttcccggtc aaaaggggaa aaaaaagca  
540  
gtggagcagc gtgacttcat tggagtggac agcacaggaa agaggctgct ctcatggct  
600  
aatgaagcag acttggtatga agagctggtc attaagggtat ccctcctaca gaagcatcct  
660  
agaatacgtt tccacacggg tcttggtgat gccacctct actgtttgaa aaaatacatc  
720  
gtggatttcc taatggaaaa tgggtcaata acttctatcc ggagtgaact gattccatat  
780  
ttagtggaaa aacagttttc ctcagcttcc tcacaacagg gacaagaaga aaaagaggag  
840  
gatctaaaga aaaaggagct gaagtcctta gatatctaca gttttataaa agaagccaat  
900  
aactgaacc tggctcccta tgatgcctgc tggaatgcct gtcgaggaga cagggtggaa  
960  
gacttgcca gatcacaggc gcgctgctat gtccacatca tgaaagaggg gctctgctct  
1020  
cgagtgaagc cactgggact ctacatggaa gaaacagac aggtgcccac attgctgtct  
1080  
gctctctgtc cagaagaacc accagtccat tcgtcagccc agattgtcag caaacacctg  
1140  
gttgaggttg acagcctcat tgggccagag acacagattg gagagaagtc atccattaag  
1200  
cgctcagtc ttggctcatc ctgtctcata aaagatagag tgactattac caattgcctt  
1260  
ctcatgaact cagtcactgt ggaggaagga agcaatatcc aaggcagtg catctgcaac  
1320  
aatgctgtga tcgagaaggg tgcagacatc aaggactgct tgattggaag tggccagagg  
1380  
attgaagcca aagctaaacg agtgaatgag gtgatcgtgg ggaatgacca gctcatggag  
1440  
atctgagttc tgagcaagtc agactccttc cttttggcct ccaaagccac agatgttggc  
1500  
cggcccacct gtttaactct gtatttattt cccaataaag aagggttcc aaaggcatgc  
1560  
tggagacttg tggagcagtc caaagctcca tgtcaggtgg gctccaggtg tacacagtgt  
1620  
atgttcatgt gtcattgtgt aaagatcatc tggagcaagt gtgtgggaca ggacagatac  
1680

agtggcctaa ctcttgtgtg ccaagatgta tcggtggggc agcagctgtc caatgtaaag  
 1740  
 ctcttaggaa ggctactttc tgactggctg acccaaccca gtctgaaag tatccctcac  
 1800  
 ctaaaaggac ctgggagtag ttcagtcctt taccctaata agcctttcta ga  
 1852

<210> 4484

<211> 452

<212> PRT

<213> Homo sapiens

<400> 4484

Met	Glu	Phe	Gln	Ala	Val	Val	Met	Ala	Val	Gly	Gly	Gly	Ser	Arg	Met
1				5					10					15	
Thr	Asp	Leu	Thr	Ser	Ser	Ile	Pro	Lys	Pro	Leu	Leu	Pro	Val	Gly	Asn
		20						25					30		
Lys	Pro	Leu	Ile	Trp	Tyr	Pro	Leu	Asn	Leu	Leu	Glu	Arg	Val	Gly	Phe
		35				40					45				
Glu	Glu	Val	Ile	Val	Val	Thr	Arg	Asp	Val	Gln	Lys	Ala	Leu	Cys	
	50				55					60					
Ala	Glu	Phe	Lys	Met	Lys	Met	Lys	Pro	Asp	Ile	Val	Cys	Ile	Pro	Asp
65				70					75					80	
Asp	Ala	Asp	Met	Gly	Thr	Ala	Asp	Ser	Leu	Arg	Tyr	Ile	Tyr	Pro	Lys
			85					90					95		
Leu	Lys	Thr	Asp	Val	Leu	Val	Leu	Ser	Cys	Asp	Leu	Ile	Thr	Asp	Val
		100					105						110		
Ala	Leu	His	Glu	Val	Val	Asp	Leu	Phe	Arg	Ala	Tyr	Asp	Ala	Ser	Leu
	115					120						125			
Ala	Met	Leu	Met	Arg	Lys	Gly	Gln	Asp	Ser	Ile	Glu	Pro	Val	Pro	Gly
	130				135						140				
Gln	Lys	Gly	Lys	Lys	Lys	Ala	Val	Glu	Gln	Arg	Asp	Phe	Ile	Gly	Val
145				150					155					160	
Asp	Ser	Thr	Gly	Lys	Arg	Leu	Leu	Phe	Met	Ala	Asn	Glu	Ala	Asp	Leu
			165					170					175		
Asp	Glu	Glu	Leu	Val	Ile	Lys	Gly	Ser	Ile	Leu	Gln	Lys	His	Pro	Arg
		180					185						190		
Ile	Arg	Phe	His	Thr	Gly	Leu	Val	Asp	Ala	His	Leu	Tyr	Cys	Leu	Lys
	195					200						205			
Lys	Tyr	Ile	Val	Asp	Phe	Leu	Met	Glu	Asn	Gly	Ser	Ile	Thr	Ser	Ile
	210				215						220				
Arg	Ser	Glu	Leu	Ile	Pro	Tyr	Leu	Val	Arg	Lys	Gln	Phe	Ser	Ser	Ala
225				230					235					240	
Ser	Ser	Gln	Gln	Gly	Gln	Glu	Glu	Lys	Glu	Glu	Asp	Leu	Lys	Lys	Lys
			245					250					255		
Glu	Leu	Lys	Ser	Leu	Asp	Ile	Tyr	Ser	Phe	Ile	Lys	Glu	Ala	Asn	Thr
		260					265						270		
Leu	Asn	Leu	Ala	Pro	Tyr	Asp	Ala	Cys	Trp	Asn	Ala	Cys	Arg	Gly	Asp
	275					280					285				
Arg	Trp	Glu	Asp	Leu	Ser	Arg	Ser	Gln	Val	Arg	Cys	Tyr	Val	His	Ile
	290					295					300				
Met	Lys	Glu	Gly	Leu	Cys	Ser	Arg	Val	Ser	Thr	Leu	Gly	Leu	Tyr	Met
305				310					315					320	
Glu	Ala	Asn	Arg	Gln	Val	Pro	Lys	Leu	Leu	Ser	Ala	Leu	Cys	Pro	Glu



```

          325          330          335
Glu Pro Pro Val His Ser Ser Ala Gln Ile Val Ser Lys His Leu Val
          340          345          350
Gly Val Asp Ser Leu Ile Gly Pro Glu Thr Gln Ile Gly Glu Lys Ser
          355          360          365
Ser Ile Lys Arg Ser Val Ile Gly Ser Ser Cys Leu Ile Lys Asp Arg
          370          375          380
Val Thr Ile Thr Asn Cys Leu Leu Met Asn Ser Val Thr Val Glu Glu
          385          390          395          400
Gly Ser Asn Ile Gln Gly Ser Val Ile Cys Asn Asn Ala Val Ile Glu
          405          410          415
Lys Gly Ala Asp Ile Lys Asp Cys Leu Ile Gly Ser Gly Gln Arg Ile
          420          425          430
Glu Ala Lys Ala Lys Arg Val Asn Glu Val Ile Val Gly Asn Asp Gln
          435          440          445
Leu Met Glu Ile
          450

```

<210> 4485  
 <211> 513  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4485
ggatccacgt cagcccgaca tcgctgcttt atagccatgt tcacgtgtca tatgcgtctc
60
aggggtaccca aaatcacagg gccaaactcac ggggctccta ccactctagc cagtcattggg
120
gtcaggaata cccaccctc atccaaaatg tgtactcccc caaccttttg tgttcagacc
180
cacaggcctt atagcgccct gtgcgtgccc cagcatttcc ctgcctagtg gggctccagg
240
cgggcagggt gacctccttc ccaggcagt tccacacctg atcccaaaag tcagttctaa
300
tgaagtggat tcattcaaat actggtgggt ctggttgccc cgggtaagtg agggcacaga
360
gaaaaccccc aaatgtagag tatgtgacac agcacaaagc agtcccatgc caaactgatg
420
cagtggcatt ccaagtttag agttccaccg cttgagacca tccaggattc ttttaccat
480
tacttgctct actgtctct atctatttca tga
513

```

<210> 4486  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4486
Met Gly Ser Gly Ile Pro His Pro His Pro Lys Cys Val Leu Pro Gln
  1           5           10          15
Pro Phe Val Phe Arg Pro Thr Gly Leu Ile Ala Pro Cys Ala Cys Pro
          20          25          30
Ser Ile Ser Leu Pro Ser Gly Ala Pro Gly Gly Gln Gly Asp Leu Leu

```

```

      35              40              45
Pro Gln Ala Val Pro His Leu Ile Pro Lys Val Ser Ser Asn Glu Val
      50              55              60
Asp Ser Phe Lys Tyr Trp Trp Phe Trp Leu Ala Arg Val Ser Glu Gly
65              70              75              80
Thr Glu Lys Thr Pro Lys Cys Arg Val Cys Asp Thr Ala Gln Ser Ser
      85              90              95
Pro Met Pro Asn
      100

```

<210> 4487  
 <211> 387  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4487
nnacgcgtaa agatactttt tcttttctgg attccaatt ttaggtggca gtcgcaacct
60
atactattcg gacagatggc acagaaaccg ctgcgcctct tggcttgtgg agatgttgaa
120
ggaaagtttg atattttatt caatagagtt caagcaattc agaagaaaag tggaaacttt
180
gatctgctgt tgtgtgtagg aaatttcttt ggctccaccc aagatgctga atgggaggag
240
tataagactg gcatcaagaa agctcctatt cagacatatg tgcttggtgc taataaccag
300
gaaacagtaa aatattttcca ggatgctgat ggatgtgaat tagctgaaaa cattacttat
360
ctggggtcgt aaggtatctt cactgga
387

```

<210> 4488  
 <211> 129  
 <212> PRT  
 <213> Homo sapiens

```

<400> 4488
Xaa Arg Val Lys Ile Leu Phe Leu Phe Trp Ile Pro Asn Phe Arg Trp
1              5              10              15
Gln Ser Gln Pro Ile Leu Phe Gly Gln Met Ala Gln Lys Pro Leu Arg
      20              25              30
Leu Leu Ala Cys Gly Asp Val Glu Gly Lys Phe Asp Ile Leu Phe Asn
      35              40              45
Arg Val Gln Ala Ile Gln Lys Lys Ser Gly Asn Phe Asp Leu Leu Leu
      50              55              60
Cys Val Gly Asn Phe Phe Gly Ser Thr Gln Asp Ala Glu Trp Glu Glu
65              70              75              80
Tyr Lys Thr Gly Ile Lys Lys Ala Pro Ile Gln Thr Tyr Val Leu Gly
      85              90              95
Ala Asn Asn Gln Glu Thr Val Lys Tyr Phe Gln Asp Ala Asp Gly Cys
      100              105              110
Glu Leu Ala Glu Asn Ile Thr Tyr Leu Gly Arg Lys Gly Ile Phe Thr
      115              120              125
Gly

```

&lt;210&gt; 4489

&lt;211&gt; 2390

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4489

ngaattcaga ttgtggggtt gacagaactt cagagtcttg cagttgggcc ccgagttttc  
60  
cagtacggag tcaaagttgt acttcaggct atgtacttgc tgtggaagtt gatgtggagg  
120  
gagccagggtg cctatatctt tctccagaac cccccaggtc tgcctagcat tgctgtctgc  
180  
tggttcgtgg gctgcctttg tggaagcaag ctcgtcattg actggcacia ctatggctac  
240  
tccatcatgg gtctggtgca tggccccaac catccctcgt ttctgctggc caagtggtag  
300  
gagaagttct ttgggcgcct gtcccacctg aacctgtgtg ttaccaatgc tatgcgagaa  
360  
gacctggcgg ataactggca catcagggtc gtgaccgtct acgacaagcc cgcactcttc  
420  
tttaaagaga cacctctgga cctgcagcac cggctcttca tgaagctggg cagcatgcac  
480  
tctccgttca gggcccgtc agaacctgag gacctcagtc cggagcggtc ggccttcacg  
540  
gagcgggatg ctgggagcgg gctggtgacg cgtctccgtg agcggccagc cctgctggtc  
600  
agcagcacga gctggacaga ggacgaagac ttctccatcc tgctggcagc tttagaaaag  
660  
tttgaacaac tgactcttga tggacacaac cttccttctc tcgtctgtgt gataacaggc  
720  
aaagggcctc tgagggagta ttatagccgc ctcattccacc agaagcactt ccagcacatc  
780  
caggtctgca cccctgggt ggaggccgag gactaccccc tgcttctagg gtcggcggag  
840  
ctgggtgtct gtctgcacac gtccctcagt ggctggacc tgcccatgaa ggtggtggac  
900  
atgttcgggt gctgtttgcc tgtgtgtgct gtgaacttca agtgtttaca tgagctgggtg  
960  
aaacatgaag aaaatggcct ggtctttgag gactcagagg aactggcagc tcagctgcag  
1020  
atgcttttct caaactttcc tgatcctgcg ggcaagctaa accagttccg gaagaacctg  
1080  
cgggagtcgc agcagctccg atgggatgag agctgggtgc agactgtgct ccctttgggt  
1140  
atggacacat aactcctggg ccagaggcta taaaaccca ggacctcgc tgccttccc  
1200  
gcagcttctt cttggagtct cagggcaaac ctttcgagc agcacctccc agtggccaga  
1260  
agctgaaatg acagcagtgg tactgcctgg taaaagaatt ggttctgtga cccgggaagc  
1320  
tttggttggc cttgatttct tctctggagg cttggaaacg cttcctctct tcttctgttc  
1380

ttcacgcccc atgccccctgc tagcgtatta ctgttctgtg acttccctgt gacctctgca  
 1440  
 gaactcctca tcctgcgttt ggtctccagg tgtcccttt ctgccgtgtt cctaacattt  
 1500  
 tgattcctgt cttgaaaaaa gcacctgctg caccgtaagc ccagggatgt ggcagctgca  
 1560  
 gtgggcttg ctttgtgagg aactgagtgt gtccacgttg ggggaacatc atacttgata  
 1620  
 cacacgtttt tatttgcaca aagaaaatgc tatttttga gccagaattt tcatgtctga  
 1680  
 tttatgggtga ttttcttaag aaccagaact gctggcagaa agggggcacc cacacgtta  
 1740  
 gatagccgat gtcttattag agggcagttt gtggttcctg atttggaat taacattctc  
 1800  
 caaacattcc agtccaatga aagttttatc cgctttccca tataaaaatt cttcccatga  
 1860  
 gagtgatttg attctcaciaa tcccgttga gtctgtgtg agtcctacag tgtgaggttc  
 1920  
 agcattgccca tctccaagtg ctcttcgtag ggaaacagtt tctggtcag atgagcttcc  
 1980  
 gcttcccata tgatcccagc ccggcctagc tcggtggtga acagctggca cgtctctggg  
 2040  
 ttgtggacgg taaaggccac gtagacctca ggagcccgct ggtgctccca gcaggcagcc  
 2100  
 agctccgca ggacctgac cagcgacacg atggcttctg ggcaatacag cacgtcttct  
 2160  
 gcaaaaatc ccgcagcagc tcagaatctg atgagtctct taactttgct tctaagctca  
 2220  
 gtgtggacgg gggagagaga aatctcaagg gcgcattcac aggaacatta naacacgcaa  
 2280  
 tagaatgtgt tggcaaagct ctatgtgatc nctccctggg gacgtggagc cagttggaag  
 2340  
 tggaagccac agcggctgaa agcctgacct tcagatgtcg cagggtgcac  
 2390

&lt;210&gt; 4490

&lt;211&gt; 383

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4490

Xaa Ile Gln Ile Val Gly Leu Thr Glu Leu Gln Ser Leu Ala Val Gly  
 1 5 10 15  
 Pro Arg Val Phe Gln Tyr Gly Val Lys Val Val Leu Gln Ala Met Tyr  
 20 25 30  
 Leu Leu Trp Lys Leu Met Trp Arg Glu Pro Gly Ala Tyr Ile Phe Leu  
 35 40 45  
 Gln Asn Pro Pro Gly Leu Pro Ser Ile Ala Val Cys Trp Phe Val Gly  
 50 55 60  
 Cys Leu Cys Gly Ser Lys Leu Val Ile Asp Trp His Asn Tyr Gly Tyr  
 65 70 75 80  
 Ser Ile Met Gly Leu Val His Gly Pro Asn His Pro Leu Val Leu Leu  
 85 90 95  
 Ala Lys Trp Tyr Glu Lys Phe Phe Gly Arg Leu Ser His Leu Asn Leu

```

      100      105      110
Cys Val Thr Asn Ala Met Arg Glu Asp Leu Ala Asp Asn Trp His Ile
      115      120      125
Arg Ala Val Thr Val Tyr Asp Lys Pro Ala Ser Phe Phe Lys Glu Thr
      130      135      140
Pro Leu Asp Leu Gln His Arg Leu Phe Met Lys Leu Gly Ser Met His
145      150      155      160
Ser Pro Phe Arg Ala Arg Ser Glu Pro Glu Asp Pro Val Thr Glu Arg
      165      170      175
Ser Ala Phe Thr Glu Arg Asp Ala Gly Ser Gly Leu Val Thr Arg Leu
      180      185      190
Arg Glu Arg Pro Ala Leu Leu Val Ser Ser Thr Ser Trp Thr Glu Asp
      195      200      205
Glu Asp Phe Ser Ile Leu Leu Ala Ala Leu Glu Lys Phe Glu Gln Leu
      210      215      220
Thr Leu Asp Gly His Asn Leu Pro Ser Leu Val Cys Val Ile Thr Gly
225      230      235      240
Lys Gly Pro Leu Arg Glu Tyr Tyr Ser Arg Leu Ile His Gln Lys His
      245      250      255
Phe Gln His Ile Gln Val Cys Thr Pro Trp Leu Glu Ala Glu Asp Tyr
      260      265      270
Pro Leu Leu Leu Gly Ser Ala Asp Leu Gly Val Cys Leu His Thr Ser
      275      280      285
Ser Ser Gly Leu Asp Leu Pro Met Lys Val Val Asp Met Phe Gly Cys
      290      295      300
Cys Leu Pro Val Cys Ala Val Asn Phe Lys Cys Leu His Glu Leu Val
305      310      315      320
Lys His Glu Glu Asn Gly Leu Val Phe Glu Asp Ser Glu Glu Leu Ala
      325      330      335
Ala Gln Leu Gln Met Leu Phe Ser Asn Phe Pro Asp Pro Ala Gly Lys
      340      345      350
Leu Asn Gln Phe Arg Lys Asn Leu Arg Glu Ser Gln Gln Leu Arg Trp
      355      360      365
Asp Glu Ser Trp Val Gln Thr Val Leu Pro Leu Val Met Asp Thr
      370      375      380

```

&lt;210&gt; 4491

&lt;211&gt; 6712

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4491

```

ngtttttttt tttttttttt ttaaaagcag taatatcttt tatttaaaaa gttcatctta
60
gaagaaaatt caaaagggat acaataaact tttccatata ccaaaaactt gtgccaaga
120
caaaaagagg gaagaattta agtttagggg tacatatgca ggtttggtac acaggtaaac
180
tttgtgtca tggggattta ttatacagat tatttcatca cccagggtatt aagcctagta
240
cccattagtt atttttcctg ttctctctcc tctctcccacc ctccaccctt tgataggccc
300
cagtacatgt tgttccgaga gggaaaaatt taaaaaacat atgcagttaa ataaccataa
360

```

tgaatagttt tcctagaaaa aaaaatattg ccttttaaaa aaaatcaa atgtactact  
420  
ttaaagggtg caaccatctc atattgaaaa ttaaagatgt tccttcctaa aattttacat  
480  
taatcaatta aatgtttatg ttagaaaaatt taacattaat agaataaaaa ctgttttaga  
540  
aacatcacca agaacactgt tgtggcacat gtttgcaa attgcaattc ctgcaacatc  
600  
atatgtattg aaaagtctgg aaagcccatg tggctgagag ttaaatttat atactgaagt  
660  
aaaacctggg aatattcatc atgccaatta tagttcaatt attttatcag acagaactct  
720  
gagagcaa ataaaatttta aaattttacc tattccatag actgaatttt tctaggtact  
780  
attttaatac aaattattac tatagcaaaa ttctgaacac tttttggtg ttagtatatt  
840  
ttaaaagtat taatatttct ttttacctct taaatataaa gaaagcttca attcagcctt  
900  
ctattcatcc agatacattg catgtatatg tgttaaaaaa acgactaggc aattagattt  
960  
acttatctta ctttattcat aaataagaat tttcctaagt gcagtgaggg gtaggagaca  
1020  
tggaacctt tctcactat ataggtgata ttaaactgaa atatataact gccttttggg  
1080  
aacagtattt tttctgtttt ctatgaatta cccataagca tagcaaaacc aagataaatt  
1140  
taaatttaat attgttaaag agcactgttc aagataaact ttcattgata tcacagtata  
1200  
gcattataca atgattttac gtaaaaatat ttagaagcac agtgatgatt ttaagaagcc  
1260  
ataaacatt ttaatgaaat ataagaaagt catgaatatt tatgtggata tgtatgttgc  
1320  
aaatttaagg taaatcaaca taggataaac acagaagatt acatacaaac cctacatatt  
1380  
ttatttctgg tgaacatat aaacactttc ctactatagt acaaaatcaa ttagttcctc  
1440  
taccagcact aaagacttgt catctaaata tattcatttt aggggagaaa aaaatgcttc  
1500  
acatttttct aaaatgaaga ctgcaataaa ttagtgcttt aaaaaatata tatatatagg  
1560  
atatagatcc taagaaaata aaactaaagt ataaaaaatg aatagcattt cttttctgtc  
1620  
catcatatcc tttcttatct cattcctaca tagaatgaat gataagctaa attatttaga  
1680  
catgtatggt gactgaaagc aatgtcttca aggaaacagc ttcttgttta gcctcttact  
1740  
ctaccatact tagagtaaaa atcaaaggat attttagaaa tgtcttgtaa ctattgttgt  
1800  
agcaataatc tgtcttgtaa gaacaacaca ataaaaatga cctagagaat tccatgaaca  
1860  
atgatacttg gattacaaga gagctaaaaa tcagaggcta ttctgtgtg caaactattt  
1920  
ttaccagtct aaatactata tggtttacca ctgaacaccc aagtttgact gaagtgaaca  
1980

tttgtacta tcagtaaaaa actccctctc ttacaggaat ggcagaaata tagacattta  
2040  
gtcatcaaaa atggcacaat gtacatcaca caaatgatta tattatgggt cataaggaaa  
2100  
acagccacaa ttttgatcag agaaatgtta atacatatga agccttaaaa cagcaacatg  
2160  
gcggggaagg agagggaggc gggaaacctaa tgcatttgaa ttaaaggaaa caggcaatat  
2220  
ttggtcgatg taaacaatgc tatttaacga gtgctttatc tactttactg aaatacggaa  
2280  
atacttatgt acacgattta aatgtgcaca agacttgggc ttttttcttc tagactatgt  
2340  
acatcattca gcacacaatt caaaaagtgc tgggtgtatc aacacactcc cagtaagatt  
2400  
atgttacact gaaacatata atattaaact ttcaagagac tgcttttgat gctaaggagt  
2460  
aatctatttt tacaagaatg ctcaatgggt gtgatttcta gaatatcttt ttcaatatca  
2520  
ccaaaaataa gataaaatct attttaaaat tatgatttag aggtagagct gaaattatct  
2580  
atttaaatta taggaaagaa agacataaaa tcattgtgag agaataatgg tgaaaaacat  
2640  
tcttgccata gagtctccat cttctttggc tatagtgtgt gtttcaagtt gaaacagcat  
2700  
cactagtatt gctgccttcg aacattttgt ttctggaaaa aagcctttcc aaattcatat  
2760  
gtactgatca taatggcaca agcaggagca attttaatta agcgaggaat taggcctgaa  
2820  
aataatccgg aaaatccatt tttagcaaca atgttcttca ttataatcca ggttgacata  
2880  
tgcaaggca tagaaatctt atgactttca tatgtccaaa gttgtgtctg cttttgtgtt  
2940  
tttactacat caaatggtaa agttgcaaca gcagcaaaag aaccagacaa tgccctgaa  
3000  
gtaaagttga tcataaatgt tggtcatat aaaccagatt tctcacataa ccacttcttt  
3060  
aaaatttcat agttatacca gtacattgct gagaaaggta catctctaag aacagtagga  
3120  
gccagcccc tccaaaggga aatccaacca tcttcagata ctttcttgct gacaaatcga  
3180  
tgcagttcca cgtaagaaaa cttcttggtg tgcattctgg ttctaataa ttctagtggg  
3240  
cttatcacag ttactgcacc aaatctggct acaattccag caacaattgg tatgcaggtt  
3300  
tcattttctc ctaacttaga tctcagaaga gcacttaatt gatcatagca ggtaaaataa  
3360  
ataactgtgg caggaaactgc catcactagg gtaggaggaa ggccactcca tagagattta  
3420  
atgccctcat ttcgaatgat tttaaaaaat gcatccaatg ttccctggaa atttcttggt  
3480  
ttcttatacc atagtgtgtt gcctccctct tcacagacac atagatgatc catgagtcca  
3540  
ttactatata caaaacattt tcctttgggg agtgggttgt tttgggcttg gagtctaatt  
3600

ttaacaacat ccaggggtgt cactattact gatgtcagta tagctccagt acatgaggca  
3660  
agcatttgtt gaagaggtgt cactttgata atctcttgtc cccttgtctc aggatccata  
3720  
tttttaacta attaaataaa aacctgggtt gagtctgttc ttcaactcta tgctccaata  
3780  
ttttattgtt tgtaacatca gtagccaaaa acctggggca gaaggcagct gcagggccgg  
3840  
cagtcctggc aaacctagaa ggcgggaata accctgggtga cgggcggggc cgggctccgg  
3900  
cgctaactgc atccactagg ttgggtcaac acagagccgc gccaaactctc tgaggctgcg  
3960  
ccaagacctg aagcggcgga ccgagagccc gggctctgaga ctgagagagc aacggaatgg  
4020  
aggcggggta gaggcggaaa cacaacctgc agggccagag cgaggcgcgga gaaggacggc  
4080  
ggcgtgaggg ggcggggcg cagcgcgag aaggcaggca cgagggcgga gcgcgaggg  
4140  
gggcacggcg cgtggcgta gacggggcg ggcgcgcta tcggcgccgc ggccgcgtga  
4200  
cgcgttttca aatcttcaac cgccgcagcc cactcgtttg tgctttgcgc cttcctcctc  
4260  
cgcgccttgg agccgatcc ggccccgaa acccgaccgc cagacgcggt acctctactg  
4320  
cgtagaggcc gtagctggcg gaaggagaga ggcggccgta ctgtcaacag gccgggggaa  
4380  
gccgtgcttt cgcggtgcc cgggtgcgaca ctttctccgg acccagcatg taggtgccgg  
4440  
gcgactgcca tgaactccgg agccatgagg atccacagta aaggacattt ccagggtgga  
4500  
atccaagtca aaaatgaaaa aaacagacca tctctgaaat ctctgaaaac tgataacagg  
4560  
ccagaaaaat ccaaatgtaa gccactttgg ggaaaagtat ttaccttga cttaccttct  
4620  
gtcaccatat ctgaaaaact tcaaaaggac attaaaggatc tgggagggcg agttgaagaa  
4680  
tttctcagca aagatatcag ttatcttatt tcaaataaga aggaagctaa atttgcaaa  
4740  
accttgggtc gaatttctcc tgtaccaagt ccagaatctg catatactgc agaaaccact  
4800  
tcacctcatc ccagccatga tggaagttca ttaagtcac cagacacagt gtgtttaagc  
4860  
agaggaaaat tattagttga aaaagctatc aaggaccatg attttattcc ttcaaatagt  
4920  
atattatcaa atgccttgtc atggggagta aaaattcttc atattgatga cattagatac  
4980  
tacattgaac aaaagaaaa agagttgtat ttactcaaga aatcaagtac ttcagtaaga  
5040  
gatgggggca aaagagttgg tagtggtgca caaaaaacaa gaacaggaag actcaaaaag  
5100  
cctttgttaa aggtggaaga tatgagccaa ctttataggc cattttatct tcagctgacc  
5160  
aatatgcctt ttataaatta ttctattcag aagccctgca gtccatttga tgtagacaag  
5220



ccatctagta tgcaaaagca aactcaggtt aaactaagaa tccaaacaga tggcgataag  
5280  
tatgggtggaa cctcaattca actccagttg aaagagaaga agaaaaaagg atattgtgaa  
5340  
tggttgcttgc agaaatatga agatctagaa actcaccttc taagttagca acacagaaac  
5400  
tttgcacaga gtaaccagta tcaagttgtt gatgatattg tatctaagtt agtttttgac  
5460  
tttgtggaat atgaaaagga cacacctaaa aagaaaagaa taaaatacag tgttggatcc  
5520  
ctttctcctg tttctgcaag tgtcctgaaa aagactgaac aaaaggaaaa agtggaaattg  
5580  
caacatattt ctcagaaaga ttgccaggaa gatgatacaa cagtgaagga gcagaatttc  
5640  
ctgtataaag agaccagga aactgaaaaa aagctcctgt ttatttcaga gcccatcccc  
5700  
cacccttcaa atgaattgag agggcttaat gagaaaatga gtaataaatg ttccatgtta  
5760  
agtacagctg aagatgacat aagacagaat ttacacagc tacctctaca taaaaacaaa  
5820  
caggaatgca ttcttgacat ttccgaacac acattaagtg aaaatgactt agaagaacta  
5880  
agggtagatc actataaatg taacatacag gcatctgtac atgtttctga tttcagtaca  
5940  
gataaatgtg gatctcaacc aaaacagaag tcagatactg tgctttttcc agcaaaggat  
6000  
ctcaaggaaa aggaccttca ttcaatattt actcatgatt ctggtctgat aacaataaac  
6060  
agttcacaag agcacctaac tgttcaggca aaggctccat tccatactcc tcttgaggaa  
6120  
cccaatgaat gtgacttcaa gaatatggat agtttacctt ctggtaaaat acatcgaaaa  
6180  
gtgaaaataa tattaggacg aaatagaaaa gaaaatctgg aaccaaatgc tgaatttgat  
6240  
aaaagaactg aatttattac acaagaagaa aacagaattt gtagttcacc ggtacagtct  
6300  
ttactagact tgtttcagac tagtgaagag aaatcagaat ttttgggttt cacaagctac  
6360  
acagaaaaga gtggtatatg caatgtttta gatatttggg aagaggaaaa ttcagataat  
6420  
ctgttaacag cgtttttctc gtccccctca acttctacat ttactggctt ttagaattta  
6480  
aaaaatgcat acttttcaga agtgataagg atcatattct tgaaattttt ataaatatgt  
6540  
atggaaattc ttaggatttt ttaccagct ttgtttacag acccaaattg aaatattaaa  
6600  
aataaatatt tgcaattttc tacagaattg aatacctgtt aaagaaaaat tacagaataa  
6660  
acttgtgact ggtcttgttt tacattaaaa aaaaaaaaaa aaaaaactcg ag  
6712

&lt;210&gt; 4492

&lt;211&gt; 674

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4492

```

Met Asn Ser Gly Ala Met Arg Ile His Ser Lys Gly His Phe Gln Gly
 1           5           10           15
Gly Ile Gln Val Lys Asn Glu Lys Asn Arg Pro Ser Leu Lys Ser Leu
      20           25           30
Lys Thr Asp Asn Arg Pro Glu Lys Ser Lys Cys Lys Pro Leu Trp Gly
      35           40           45
Lys Val Phe Tyr Leu Asp Leu Pro Ser Val Thr Ile Ser Glu Lys Leu
      50           55           60
Gln Lys Asp Ile Lys Asp Leu Gly Gly Arg Val Glu Glu Phe Leu Ser
 65           70           75           80
Lys Asp Ile Ser Tyr Leu Ile Ser Asn Lys Lys Glu Ala Lys Phe Ala
      85           90           95
Gln Thr Leu Gly Arg Ile Ser Pro Val Pro Ser Pro Glu Ser Ala Tyr
      100          105          110
Thr Ala Glu Thr Thr Ser Pro His Pro Ser His Asp Gly Ser Ser Phe
      115          120          125
Lys Ser Pro Asp Thr Val Cys Leu Ser Arg Gly Lys Leu Leu Val Glu
      130          135          140
Lys Ala Ile Lys Asp His Asp Phe Ile Pro Ser Asn Ser Ile Leu Ser
 145          150          155          160
Asn Ala Leu Ser Trp Gly Val Lys Ile Leu His Ile Asp Asp Ile Arg
      165          170          175
Tyr Tyr Ile Glu Gln Lys Lys Lys Glu Leu Tyr Leu Leu Lys Lys Ser
      180          185          190
Ser Thr Ser Val Arg Asp Gly Gly Lys Arg Val Gly Ser Gly Ala Gln
      195          200          205
Lys Thr Arg Thr Gly Arg Leu Lys Lys Pro Phe Val Lys Val Glu Asp
      210          215          220
Met Ser Gln Leu Tyr Arg Pro Phe Tyr Leu Gln Leu Thr Asn Met Pro
 225          230          235          240
Phe Ile Asn Tyr Ser Ile Gln Lys Pro Cys Ser Pro Phe Asp Val Asp
      245          250          255
Lys Pro Ser Ser Met Gln Lys Gln Thr Gln Val Lys Leu Arg Ile Gln
      260          265          270
Thr Asp Gly Asp Lys Tyr Gly Gly Thr Ser Ile Gln Leu Gln Leu Lys
      275          280          285
Glu Lys Lys Lys Lys Gly Tyr Cys Glu Cys Cys Leu Gln Lys Tyr Glu
      290          295          300
Asp Leu Glu Thr His Leu Leu Ser Glu Gln His Arg Asn Phe Ala Gln
 305          310          315          320
Ser Asn Gln Tyr Gln Val Val Asp Asp Ile Val Ser Lys Leu Val Phe
      325          330          335
Asp Phe Val Glu Tyr Glu Lys Asp Thr Pro Lys Lys Lys Arg Ile Lys
      340          345          350
Tyr Ser Val Gly Ser Leu Ser Pro Val Ser Ala Ser Val Leu Lys Lys
      355          360          365
Thr Glu Gln Lys Glu Lys Val Glu Leu Gln His Ile Ser Gln Lys Asp
      370          375          380
Cys Gln Glu Asp Asp Thr Val Lys Glu Gln Asn Phe Leu Tyr Lys
 385          390          395          400
Glu Thr Gln Glu Thr Glu Lys Lys Leu Leu Phe Ile Ser Glu Pro Ile

```

405 410 415  
 Pro His Pro Ser Asn Glu Leu Arg Gly Leu Asn Glu Lys Met Ser Asn  
 420 425 430  
 Lys Cys Ser Met Leu Ser Thr Ala Glu Asp Asp Ile Arg Gln Asn Phe  
 435 440 445  
 Thr Gln Leu Pro Leu His Lys Asn Lys Gln Glu Cys Ile Leu Asp Ile  
 450 455 460  
 Ser Glu His Thr Leu Ser Glu Asn Asp Leu Glu Glu Leu Arg Val Asp  
 465 470 475 480  
 His Tyr Lys Cys Asn Ile Gln Ala Ser Val His Val Ser Asp Phe Ser  
 485 490 495  
 Thr Asp Asn Ser Gly Ser Gln Pro Lys Gln Lys Ser Asp Thr Val Leu  
 500 505 510  
 Phe Pro Ala Lys Asp Leu Lys Glu Lys Asp Leu His Ser Ile Phe Thr  
 515 520 525  
 His Asp Ser Gly Leu Ile Thr Ile Asn Ser Ser Gln Glu His Leu Thr  
 530 535 540  
 Val Gln Ala Lys Ala Pro Phe His Thr Pro Pro Glu Glu Pro Asn Glu  
 545 550 555 560  
 Cys Asp Phe Lys Asn Met Asp Ser Leu Pro Ser Gly Lys Ile His Arg  
 565 570 575  
 Lys Val Lys Ile Ile Leu Gly Arg Asn Arg Lys Glu Asn Leu Glu Pro  
 580 585 590  
 Asn Ala Glu Phe Asp Lys Arg Thr Glu Phe Ile Thr Gln Glu Glu Asn  
 595 600 605  
 Arg Ile Cys Ser Ser Pro Val Gln Ser Leu Leu Asp Leu Phe Gln Thr  
 610 615 620  
 Ser Glu Glu Lys Ser Glu Phe Leu Gly Phe Thr Ser Tyr Thr Glu Lys  
 625 630 635 640  
 Ser Gly Ile Cys Asn Val Leu Asp Ile Trp Glu Glu Glu Asn Ser Asp  
 645 650 655  
 Asn Leu Leu Thr Ala Phe Phe Ser Ser Pro Ser Thr Ser Thr Phe Thr  
 660 665 670  
 Gly Phe

&lt;210&gt; 4493

&lt;211&gt; 1829

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4493

nngtataaac tgcataaattt tcaataata ggtagggggc tttcactagg aaaatcatgt  
 60  
 gctcaaaaga ggaaatgact cgtagtcagg ttcaggagtt agtggagtat ttggactttg  
 120  
 gtactgctgt cttccaaggt agctctaagt tttgatgtgt gggcttctga gtttatattc  
 180  
 tgaaaggaaa tacacttctt ttgaacatcc ccactagggt cttttccatt gtcaataagg  
 240  
 agcatcagcc agtgaatctg tttcagggtt ccattctgca gaactcctcc aaagcatgtg  
 300  
 ctagtggcaa gacagtgggt cttatgatgt tttcccttaa cttttccttg tatgttcttg  
 360

ggtaggttcct aagggaagga gaagcacatg atcatgggaa tgatagccca gaacaaaaag  
420  
aaatcttgct ttaccacagt gttttatagg agagattggg agaaatcatc ctgttttctc  
480  
tgtgacctga tttcagaaga gactgatcca aaaattataa cggcaggga cctagtgcac  
540  
ttggcactga gatttaaatg caaccagaat tgcctcaag gccagccat aaaagcattg  
600  
tctctctcga ccttctggta tcttggtaga gagcttttca ctgtgaggaa gtgtggaaaa  
660  
atagctctgt gtgtgtgtgt gtgtgtgtgt gtgtgtgtgt gtaatctgtt aggttgggga  
720  
taggttttct gctagccaat attaaaagag acctgcaata aaaaaattac cctgnatctg  
780  
atagaaagca agtgtttttg tatgtgtggg tgaatgtgtg ttcatgcccg tatatgtcta  
840  
cacacagatg acaaattata tttgaaatcg ttggaaaata aattcagatc aaaatgcctt  
900  
tcaggcccat tacctagaaa tctatcttaa aacctgggta tgttcctaag gtcatttctt  
960  
tgcttatgct aaattaatta caattatgaa tggaggatat tctactgtac ttttttaaaa  
1020  
agaaactatt tttgtgtttg aaagtgaac caacatccag atctatagca gagtccttat  
1080  
tcttctcata aatcttttta ctttggtac aaatagatga tggatgatt ctattatata  
1140  
ttttatataa aatccatcca aattaagttt tgggtaagtg tgttgtttaa tctgaactat  
1200  
agtaacttaa tactctaaac aatagttcac tccatttggg ctttctcca cagatgtaac  
1260  
tatgttttca actcaggaac tatggcaagg aactttcccc agatcaaatt ctattaacgc  
1320  
tgagatacaa gtcacccatg cacagccact atcataccct ttattctcac tgaaaggcag  
1380  
aactcagaac ctgttatttt atgtctgtaa tcatgtactt tggcatcttt tggaggaaag  
1440  
gggcaggata actcactgga atgtacagta ttttgctagt gcatttcaag gaatggaac  
1500  
ttctccagta tgaaattacc agatataaaa taatgtaatg atgctgagga tataagcttt  
1560  
tagaaggtaa tttgatgga tttcttctc gaatgaaaag ctgctggttt accctcaacc  
1620  
ctattcatta gcattaccat gagtgaattt atatctaatt atttcactt gcctgttct  
1680  
cttcacacca aggaagctcc agatccagta tcttgtttgg cctcaaaaca gaagcagctt  
1740  
cttttgtctc ccagcagtag tgagccactc agtctcttcc acaggaagtt tgggagccta  
1800  
cattccttga gtcagggagc ttaattaca  
1829

&lt;210&gt; 4494

&lt;211&gt; 111

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4494

```

Met Ile Met Gly Met Ile Ala Gln Asn Lys Lys Lys Ser Cys Leu Thr
 1           5           10           15
Thr Val Phe Tyr Arg Arg Asp Trp Glu Lys Ser Ser Cys Phe Leu Cys
      20           25           30
Asp Leu Ile Ser Glu Glu Thr Asp Pro Lys Ile Ile Thr Ala Gly Asn
      35           40           45
Leu Val His Leu Ala Leu Arg Phe Lys Cys Asn Gln Asn Cys Pro Gln
      50           55           60
Gly Pro Ala Ile Lys Ala Leu Ser Leu Ser Thr Phe Trp Tyr Leu Val
      65           70           75           80
Arg Glu Leu Phe Thr Val Arg Lys Cys Gly Lys Ile Ala Leu Cys Val
      85           90           95
Cys Val Cys Val Cys Val Cys Val Cys Asn Leu Leu Gly Trp Gly
      100           105           110

```

&lt;210&gt; 4495

&lt;211&gt; 3623

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4495

```

cctgaatcct tggagactga catttttccc ccctaaaggc atagacaaca aaagaaattt
60
tattgagagg aaaacacaag tccttaaact gcaaagatgt ttgccaggat gtctgatctc
120
catgtttctgc tgtaaatggc tctggtggga aagacagcct gtgggttctc cctgatgtct
180
ttattgaaa gcctggaccc agactggacc cctgaccagt atgattacag ctacgaggat
240
tataatcagg aagagaacac cagtagcaca cttaccacag ctgagaatcc tgactggtag
300
tacactgagg accaagctga tccatgccag cccaaccctt gtgaacacgg tggggactgc
360
ctcgtccatg ggagcacctt cacatgcagc tgcctggctc ctttctctgg gaataagtgt
420
cagaaagtgc aaaatacgtg caaggacaac ccatgtggcc ggggccaatg tctcattacc
480cctactaccg ctgtgtctgt aaacaccctt acacagggtcc cagctgtccc 540
caagtgggtc ctgtatgcag gccaaacccc tgccagaatg gggctacctg ctcccggcat
600
aagcggagat ccaagttcac ctgtgcctgt cccgaccagt tcaaggggaa attctgtgaa
660
ataggttctg atgactgcta tggtggcgat ggctactctt accgagggaa aatgaatagg
720
acagtcaacc agcatgcgtg cctttactgg aactcccacc tctcttgca ggagaattac
780
aacatgttta tggaggatgc tgaaacccat gggattgggg aacacaattt ctgcagaaac
840
ccagatgcgg acgaaaagcc ctggtgcttt attaaagtta ccaatgacaa ggtgaaatgg
900
gaatactgtg atgtctcagc ctgctcagcc caggacgttg cctaccaga ggaaagcccc
960

```

actgagccat caaccaagct tccgggggttt gactcctgtg gaaagactga gatagcagag  
1020  
aggaagatca agagaatcta tggaggcttt aaaagcacgg cgggcaagca cccatggcag  
1080  
gcgtccctcc agtcctcgtc gcctctgacc atctccatgc cccagggcca cttctgtggt  
1140  
ggggcactga tccaccctcgt ctgggtgctc actgctgccc actgcaccga cataaaaacc  
1200  
agacatctaa aggtggtgct aggggaccag gacctgaaga aagaagaatt tcatgagcag  
1260  
agcttttaggg tggagaagat attcaagtac agccactaca atgaaagaga tgagattccc  
1320  
cacaatgata ttgcattgct caagttaaag ccagtggatg gtcactgtgc tctagaatcc  
1380  
aaatacgtga agactgtgtg cttgcctgat gggtcctttc cctctgggag tgagtgccac  
1440  
atctctggct ggggtgttac agaaacagga aaaggggtccc gccagctcct ggatgccaaa  
1500  
gtcaagctga ttgccaacac tttgtgcaac tcccgccaac tctatgacca catgattgat  
1560  
gacagtatga tctgtgcagg aaatcttcag aaacctgggc aagacacctg ccagggtgac  
1620  
tctggaggcc ccttgacctg tgagaaggac ggcacctact acgtctatgg gatagtgagc  
1680  
tggggcctgg agtgtgggaa gaggccaggg gtctacaccc aagttacca attcttgaat  
1740  
tggtatcaaag ccaccatcaa aagtgaagt ggcttctaag gtactgtctt ctggacctca  
1800  
gagccactc tccttggcac cctgacaccg ggaggcctca tggccaacaa tggacacctc  
1860  
cagagcctcc aggggaccac acagtagact atccctactc taagcagaga caactgccac  
1920  
ccagcctggg ccttcccaga ccagcatttg cacaatatca ccaggcttct tctgcctccc  
1980  
tttgtaacctc aaggaatgat ggaatcaaca caacatagta tgtttgcttt ccttacccaa  
2040  
ttgtaccttc tagaaaatca gtgttcacag agactgcctc caccacaggc atcctgcaaa  
2100  
tgcagactcc agaatcccca gcatcagcgg gaaccaccat cacatcttta ttcctcagcc  
2160  
cagacactcg aggcactcaa cagaatcagc catccacgtc taggtatcag agaggaccac  
2220  
aaatacaaca ttctccatct gctttcagag ttattatttt aataaaggaa gatctgggat  
2280  
gggctggtgg gccattccag cttgccgaaa tcaaagccat ctgaagcctg tctctggtga  
2340  
acaaaacttc tctctggcct ctcaggaatc aggggtggaca tggctcacia cagcagggcc  
2400  
ttcttctttt tgacgtgcag aatctcagtg gcatctgggt tcacctcccc actctgatga  
2460  
tctccagcct ccaactgttc tgccccccgg taagctccct ggagaccag gcccttgcg  
2520  
ttggccagtt ccgcagcccc ccgagccatt tccactttgt aggagccagg aggggtccag  
2580

ccaacacctc tggtcagggt caagtctgat ttatacttga catcactctg cagctggtgg  
 2640  
 gccttctgag catgcctgag gccagctgc tccgggtcgc aggtgggctg gggcaggggc  
 2700  
 tgctttagt gcacatcact ggccagctgc tggctcctct tggcctgaag gaggccgggc  
 2760  
 tggctgtgc tgctgtgaaa ctgggaccga ctcttggcaa agtccttctt gtactcattg  
 2820  
 tcactctgga gcctgccaac gttgaggaaa tgcttcatcc ttgggtcatc gtcgacactg  
 2880  
 cggtagccga tctgcaggcc tcggtcccgc aggaagcct cttgtaccg gaaatcactg  
 2940  
 gcgatctccc tagatgcccg ggcagtctgg aaggggatgg catccagcct gaagtcataa  
 3000  
 ctgccagccc gggctctgctc ccaggagttt ctgtagactt tgtcactcag atgcagcgca  
 3060  
 ttgaggcgag ctccgggtgaa atcgggatgg tcggggatca ggggttatct gtgcagggat  
 3120  
 tctgcatctc cagatctata catgcgctca ttgcagtga tatagctgtt cttggcatga  
 3180  
 accaggtctg gggagtcaac cactgtggtg aacttgatac tgtctggtt tttacggtag  
 3240  
 ttggtctcgc tgatgagttc tccagccttc tttgactct ccatctgtgg ggatctcagc  
 3300  
 gccagccatc ctatgccctt catgccgatc aggtctgact tgtagcgcaa ctactctgc  
 3360  
 agggcatggg ctttcttggc ccaggccatc ttcaggctct cgggcagtgc tgtgaacttg  
 3420  
 tgatactgtg tcctgtagtc gtggtcgtg gccagagcct gggcattctt ggcattggacc  
 3480  
 aggtgcacca tgtccatggg cagatggaac tgggcttggc tgetggtcgc cccctcctg  
 3540  
 tactgaagct cgctctgcag ctggcccatg cgccggcagt gctggatccg ggggtcgtct  
 3600  
 cttacactct ggggccctat gag  
 3623

&lt;210&gt; 4496

&lt;211&gt; 560

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4496

Met	Phe	Ala	Arg	Met	Ser	Asp	Leu	His	Val	Leu	Leu	Leu	Met	Ala	Leu
1				5					10					15	
Val	Gly	Lys	Thr	Ala	Cys	Gly	Phe	Ser	Leu	Met	Ser	Leu	Leu	Glu	Ser
			20					25					30		
Leu	Asp	Pro	Asp	Trp	Thr	Pro	Asp	Gln	Tyr	Asp	Tyr	Ser	Tyr	Glu	Asp
		35					40					45			
Tyr	Asn	Gln	Glu	Glu	Asn	Thr	Ser	Ser	Thr	Leu	Thr	His	Ala	Glu	Asn
	50					55					60				
Pro	Asp	Trp	Tyr	Tyr	Thr	Glu	Asp	Gln	Ala	Asp	Pro	Cys	Gln	Pro	Asn
65					70					75				80	
Pro	Cys	Glu	His	Gly	Gly	Asp	Cys	Leu	Val	His	Gly	Ser	Thr	Phe	Thr

3680



	515		520		525										
Trp	Gly	Leu	Glu	Cys	Gly	Lys	Arg	Pro	Gly	Val	Tyr	Thr	Gln	Val	Thr
	530				535				540						
Lys	Phe	Leu	Asn	Trp	Ile	Lys	Ala	Thr	Ile	Lys	Ser	Glu	Ser	Gly	Phe
545					550				555					560	

<210> 4497  
 <211> 840  
 <212> DNA  
 <213> Homo sapiens

<400> 4497  
 nnacgcgtga aacagaaagc agagaaaaag cgactcaaga agaagcgtca aaaggaacgg  
 60  
 aagcgacagg agcggtttgga gcagtactgt ggggagccca aggccagcac tacctcagat  
 120  
 ggagatgaga gcccccatc cagccctgga aaccagttc agggacagtg tggatgaaga  
 180  
 gaggactcac tggatctatc tagcactttt gtgtctctgg ctttgcgcaa ggttggggat  
 240  
 tggccctca gtgcccgcag agagaaggga ctgaaccagg agccccaagg caggggtctg  
 300  
 gccctccaga agatgggtca agaggaagag agccctccaa gagaggagag gccccagcag  
 360  
 agtccaaagg catctccggg actgctggca gctgccttac aacagagcca ggaactggca  
 420  
 aagttgggta ccagctttgc tcaaaatggt ttctaccatg aggccgtggt cctcttcacc  
 480  
 caggccttga agctcaaccc ccaggaccac cggttatttg gaaatcgttc cttctgccat  
 540  
 gagcggttgg gtcagccagc gtgggcccgt gctgatgccc aggtggccct taccctacgg  
 600  
 cctggctggc cccggggcct cttccgcctg ggcaaggcct tgatgggact acagcgcttc  
 660  
 agagaggcag ctgctgtgtt tcaggaaact ctgagagggt ggtcccagcc tgacgcagcc  
 720  
 cgagagctcc gctcttgect tctccacctc aactgcagg gtcagcgagg aggaatctgt  
 780  
 gcaccgcctc tgtcacctgg ggcctccag ccaattcccc atgctgagct ggcaccctca  
 840

<210> 4498  
 <211> 280  
 <212> PRT  
 <213> Homo sapiens

<400> 4498  
 Xaa Arg Val Lys Gln Lys Ala Glu Lys Lys Arg Leu Lys Lys Lys Arg  
 1 5 10 15  
 Gln Lys Glu Arg Lys Arg Gln Glu Arg Leu Glu Gln Tyr Cys Gly Glu  
 20 25 30  
 Pro Lys Ala Ser Thr Thr Ser Asp Gly Asp Glu Ser Pro Pro Ser Ser  
 35 40 45  
 Pro Gly Asn Pro Val Gln Gly Gln Cys Gly Glu Glu Glu Asp Ser Leu

50		55		60											
Asp	Leu	Ser	Ser	Thr	Phe	Val	Ser	Leu	Ala	Leu	Arg	Lys	Val	Gly	Asp
65					70					75				80	
Trp	Pro	Leu	Ser	Ala	Arg	Arg	Glu	Lys	Gly	Leu	Asn	Gln	Glu	Pro	Gln
			85						90					95	
Gly	Arg	Gly	Leu	Ala	Leu	Gln	Lys	Met	Gly	Gln	Glu	Glu	Glu	Ser	Pro
			100					105					110		
Pro	Arg	Glu	Glu	Arg	Pro	Gln	Gln	Ser	Pro	Lys	Ala	Ser	Pro	Gly	Leu
			115				120					125			
Leu	Ala	Ala	Ala	Leu	Gln	Gln	Ser	Gln	Glu	Leu	Ala	Lys	Leu	Gly	Thr
			130			135					140				
Ser	Phe	Ala	Gln	Asn	Gly	Phe	Tyr	His	Glu	Ala	Val	Val	Leu	Phe	Thr
145					150					155				160	
Gln	Ala	Leu	Lys	Leu	Asn	Pro	Gln	Asp	His	Arg	Leu	Phe	Gly	Asn	Arg
			165					170					175		
Ser	Phe	Cys	His	Glu	Arg	Leu	Gly	Gln	Pro	Ala	Trp	Ala	Leu	Ala	Asp
			180				185					190			
Ala	Gln	Val	Ala	Leu	Thr	Leu	Arg	Pro	Gly	Trp	Pro	Arg	Gly	Leu	Phe
			195				200					205			
Arg	Leu	Gly	Lys	Ala	Leu	Met	Gly	Leu	Gln	Arg	Phe	Arg	Glu	Ala	Ala
			210			215					220				
Ala	Val	Phe	Gln	Glu	Thr	Leu	Arg	Gly	Gly	Ser	Gln	Pro	Asp	Ala	Ala
225					230				235					240	
Arg	Glu	Leu	Arg	Ser	Cys	Leu	Leu	His	Leu	Thr	Leu	Gln	Gly	Gln	Arg
			245				250					255			
Gly	Gly	Ile	Cys	Ala	Pro	Pro	Leu	Ser	Pro	Gly	Ala	Leu	Gln	Pro	Leu
			260				265					270			
Pro	His	Ala	Glu	Leu	Ala	Pro	Ser								
			275			280									

&lt;210&gt; 4499

&lt;211&gt; 562

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4499

```

ntcatcacag actatgctgt tcagccacat gtgggcacgg gggcagtgaa ggtgactcca
60
gtccacagtc ctgccgatgc tgagatgggg gcccgacatg gcttgagccc cttgaatgtc
120
attgcggagg atgggacat gacctcctc tgcggggact ggttgagggg tcttcaccgg
180
tttgtggccc gggaaaagat aatgtctgtg ctgagtgaac ggggcctatt ccggggcctc
240
cagaaccacc ccatggtact gccatctgc aggtaatctc attttaactc ctttactaag
300
ggctacccca aaagggaatg tatggagctt aagggtgaca ataggatggg ctctgcaccc
360
ctccgtaga atacgagctc cgtgtcgggt ttattcgcta ttgtatcctc agtaccaagg
420
gcctggcatg gcatggggtc ctgtgccctt gggagaagtc acagggccgg aagagcagtg
480
gactcaccct gtctctcttt cagcgttctt ggggatgtga tagaatacct gctgaagaac
540

```

cagtgggttg tccgctgccg cg  
562

<210> 4500  
<211> 91  
<212> PRT  
<213> Homo sapiens

<400> 4500  
Xaa Ile Thr Asp Tyr Ala Val Gln Pro His Val Gly Thr Gly Ala Val  
1 5 10 15  
Lys Val Thr Pro Ala His Ser Pro Ala Asp Ala Glu Met Gly Ala Arg  
20 25 30  
His Gly Leu Ser Pro Leu Asn Val Ile Ala Glu Asp Gly Thr Met Thr  
35 40 45  
Ser Leu Cys Gly Asp Trp Leu Gln Gly Leu His Arg Phe Val Ala Arg  
50 55 60  
Glu Lys Ile Met Ser Val Leu Ser Glu Arg Gly Leu Phe Arg Gly Leu  
65 70 75 80  
Gln Asn His Pro Met Val Leu Pro Ile Cys Arg  
85 90

<210> 4501  
<211> 1866  
<212> DNA  
<213> Homo sapiens

<400> 4501  
gggtggataa gacaccgctg cccctccaat tccgtaagc accccttgct ccatcctgctg  
60  
cccccaatacc tcagctagcc cccttcccca cttcttacac tccaaactca gccgggacag  
120  
acctctgctg ccgcccgcac caggaacgtg tgacgacggc tggaggccaa cagagtcctc  
180  
acaggtggtg ctcacggtaa tgcaccgaca atgagtggct gttttccagt ttctggcctc  
240  
cgctgcctat ctagggacgg caggatggcc gcgcaggcg cgccgcgctt cctcctgacc  
300  
ttcgacttcg acgagactat cgtggacgaa aacagcgacg attcgatcgt gcgcgccg  
360  
ccggggccagc ggctcccga gagcctgcga gccacctacc gcgagggtt ctacaacgag  
420  
tacatgcagc gcgtcttcaa gtacctgggc gagcaggcg tgcggccgcg ggacctgagc  
480  
gccatctacg aagccatccc tttgtcgcca ggcattgagc acctgctgca gtttgtggca  
540  
aaacagggcg cctgcttcga ggtgattctc atctccgatg ccaacacctt tggcgtggag  
600  
agctcgctgc gcgcgcgagg ccaccacagc ctgttcgcc gcacccctcag caaccgctc  
660  
gggcccgatg cgccgggact gctggctctg cgccggttcc acacacacag ctgcgcgagc  
720  
tgccccgcca acatgtgcaa gcacaagggtg ctcagcgact acctgcgcga gcgggcccac  
780

gacggcgtgc acttcgagcg cctcttctac gtgggtgatg gtgcaaata cttctgcccc  
 840  
 atggggctgc tggcgggcg cgacgtggcc tccccgcgc gcggctaccc catgcaccgc  
 900  
 ctcatcagg aggccagaa ggccgagccc agctcgttcc gcgccagcgt ggtgccctgg  
 960  
 gaaacggctg cagatgtgcg cctccacctg caacaggcgc tgaagtcgtg ctgagctctg  
 1020  
 ccgcctgcag ggggggtaccc gggccaacgg cggagggggc ggggaaggga gattcggcaa  
 1080  
 agacagcttt actactccct tttccctttg gctttgttat gtccctctgg gaatttctgg  
 1140  
 aatctcgtat ttgggggctt ggggaagggg gctcagagcc gtccctatct attcagttaa  
 1200  
 cccacctcgg ctgcctcccc cactccactg tgcacggttg agttctggag tctgaacctat  
 1260  
 cgcggggtgg cgcgcaaac ttggaaggca gcagtatttc ctggctctcc caactgggag  
 1320  
 gaagggggccc ccccggcagg tgagagaagg aacatctccc gccgctgtaa cttgttgcct  
 1380  
 cgggctgcgt gaccgcccct cctccagtct actgtggagg gaaccaggga tcctgaaatt  
 1440  
 ctctggccg caagaactcc ccacagaggc agaagagggt ctccacctat ggccccaggc  
 1500  
 ctttgcgatc ttgcttcacc caccgcgacc ccacactatt tctgtgctgt ccacactctc  
 1560  
 ttgcctcccg acccccgcac tcccttctag ccccccaaa ggaaaagcca gaggaacaat  
 1620  
 cgctcctcgg tgggtggtacg aggtagcgca ccgtccggtt cgggtccgga cagccagtaa  
 1680  
 cctcgagag agtgacggtg tctccttgca tcccagcctc gtctatgcag caagagacca  
 1740  
 gggacttcac caaagtcacc ctgcggggt gggccttcca cgcaccccc ccacccccca  
 1800  
 tggaacagaa agccatgttt ttaagcagaa ccagcgaac ccaagcccct ccttctctg  
 1860  
 gtgttt  
 1866

&lt;210&gt; 4502

&lt;211&gt; 267

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4502

Met	Ser	Gly	Cys	Phe	Pro	Val	Ser	Gly	Leu	Arg	Cys	Leu	Ser	Arg	Asp
1				5					10					15	
Gly	Arg	Met	Ala	Ala	Gln	Gly	Ala	Pro	Arg	Phe	Leu	Leu	Thr	Phe	Asp
			20					25					30		
Phe	Asp	Glu	Thr	Ile	Val	Asp	Glu	Asn	Ser	Asp	Asp	Ser	Ile	Val	Arg
		35					40					45			
Ala	Ala	Pro	Gly	Gln	Arg	Leu	Pro	Glu	Ser	Leu	Arg	Ala	Thr	Tyr	Arg
		50				55					60				
Glu	Gly	Phe	Tyr	Asn	Glu	Tyr	Met	Gln	Arg	Val	Phe	Lys	Tyr	Leu	Gly

```

65          70          75          80
Glu Gln Gly Val Arg Pro Arg Asp Leu Ser Ala Ile Tyr Glu Ala Ile
          85          90          95
Pro Leu Ser Pro Gly Met Ser Asp Leu Leu Gln Phe Val Ala Lys Gln
          100          105          110
Gly Ala Cys Phe Glu Val Ile Leu Ile Ser Asp Ala Asn Thr Phe Gly
          115          120          125
Val Glu Ser Ser Leu Arg Ala Ala Gly His His Ser Leu Phe Arg Arg
          130          135          140
Ile Leu Ser Asn Pro Ser Gly Pro Asp Ala Arg Gly Leu Leu Ala Leu
145          150          155          160
Arg Pro Phe His Thr His Ser Cys Ala Arg Cys Pro Ala Asn Met Cys
          165          170          175
Lys His Lys Val Leu Ser Asp Tyr Leu Arg Glu Arg Ala His Asp Gly
          180          185          190
Val His Phe Glu Arg Leu Phe Tyr Val Gly Asp Gly Ala Asn Asp Phe
          195          200          205
Cys Pro Met Gly Leu Leu Ala Gly Gly Asp Val Ala Phe Pro Arg Arg
          210          215          220
Gly Tyr Pro Met His Arg Leu Ile Gln Glu Ala Gln Lys Ala Glu Pro
225          230          235          240
Ser Ser Phe Arg Ala Ser Val Val Pro Trp Glu Thr Ala Ala Asp Val
          245          250          255
Arg Leu His Leu Gln Gln Val Leu Lys Ser Cys
          260          265

```

&lt;210&gt; 4503

&lt;211&gt; 1983

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4503

```

ncggaaggca agtgaaaatg ggtgtccctg ctgcctctta gcaacaagag ggggtcaagtg
60
acacaaccag ctgactcccg tagaggaaga cactgtggag gccagttctg gagctatttg
120
agcctcggtt gcccggccgg ggacccgagc cgaaaagtta tcgtcagaat gtcggggcaaa
180
gaccgaattg aaatctttcc ctgcgcaatg gcacagacca tcatgaaggc tcgattaaag
240
ggagcacaga caggtcgaaa cctcctgaag aaaaaatctg atgccttaac tcttcgattt
300
cgacagatcc taaagaagat aatagagact aaaatgttga tgggcgaagt gatgagagaa
360
gctgcctttt cactagctga agccaagtgc acagcaggtg acttcagcac tacagttatc
420
caaaatgtca ataaagcgca agtgaagatt cgagcgaaga aagataatgt agcaggtggt
480
actttgccag tatttgaaca ttaccatgaa ggaactgaca gttatgaact gactggttta
540
gccagaggtg gggaacagtt ggctaaatta aagaggaatt atgccaaagc agtggaaacta
600
ctgggtgaac tagcttctct gcagacttct tttgttactt tggatgaagc tattaagata
660

```

accaacaggc gtgtaaagtc cattgaacat ggtgagtatg tcatcattcc ccggattgaa  
 720  
 cgtactcttg cttatatcat cacagagctg gatgagagag agcgagaaga gttctatagg  
 780  
 ttaaagaaaa tacaagagaa gaaaaagatt ctaaaggaaa aatctgagaa ggacttggag  
 840  
 caaaggagag cagctggaga ggtgttggag cctgctaate ttctggctga agagaaggac  
 900  
 gaggatcttc tatttgaata atctttcctg ttctggttct ttgagaaacc ctaacactgg  
 960  
 cttcatttta attcacagtg tgtaggtttg atttgtgtgg ctatttattt tttggcctaa  
 1020  
 gaatttcact ggttgtaaaa ttacactaga tgtctattta tgggattact tttgcagaat  
 1080  
 cataatttag caaccattta tcatggatga aagagatctg taaaacctgc ccaggaactt  
 1140  
 acagaattta ctttgcagaa gcgttatcat actccattta catctgtgtt acacgtgatc  
 1200  
 tgcttaccac gcatattagg aaatacctct taggaagcat tagcgggtctc aggccaatta  
 1260  
 ctgtggagca gctttcattc ctaccactt gcaaaccttg gcgctgttgt ctgagattgc  
 1320  
 tgcagccatt cttgttacca tgggtacttct caaactttgt gaaaacctgc acttttcctt  
 1380  
 gcatgacagg ttctgtctt gtctgtcatg ggagccattc tgccaattta aatgcgactg  
 1440  
 tggataaaac agtaaaatga tttaaaagta agtcattccg tttttattaa tttactgtta  
 1500  
 agtcagtgtc tcatgctcag atcagtagtg tcagccagag ctttctctgc agacatgtag  
 1560  
 gaagtgggta gctatttttc ccactccatg tattagagtt ttacaaaaag gcttactttt  
 1620  
 gagacaactg ttgcattttg ggggtactaat aaatgattgc cgatgagtta tgagggcatt  
 1680  
 ataatacttc cttatttgct aattaagaaa ataactagtt cctatttttag agtaagaaat  
 1740  
 aaggtaactt tttactattt ataagtata aaaacttgct ttcatatatg aagatgaagc  
 1800  
 atttgagtgg ccacatcagg tgtctgaggt ttttagtact gtttgatttg gcatgagcca  
 1860  
 tccatgggga ctgagcttt ctgcatcca tttccaggca tttttgacat gattagccat  
 1920  
 ggaataatgt ttagttctga aattgtgaca ctgtctttat taatactgta ttttaatcaa  
 1980  
 gtg  
 1983

&lt;210&gt; 4504

&lt;211&gt; 250

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4504Ser Gly Lys Asp Arg Ile Glu Ile Phe Pro Ser Arg Met Ala Gln

1

5

10

15

Thr Ile Met Lys Ala Arg Leu Lys Gly Ala Gln Thr Gly Arg Asn Leu  
 20 25 30  
 Leu Lys Lys Lys Ser Asp Ala Leu Thr Leu Arg Phe Arg Gln Ile Leu  
 35 40 45  
 Lys Lys Ile Ile Glu Thr Lys Met Leu Met Gly Glu Val Met Arg Glu  
 50 55 60  
 Ala Ala Phe Ser Leu Ala Glu Ala Lys Phe Thr Ala Gly Asp Phe Ser  
 65 70 75 80  
 Thr Thr Val Ile Gln Asn Val Asn Lys Ala Gln Val Lys Ile Arg Ala  
 85 90 95  
 Lys Lys Asp Asn Val Ala Gly Val Thr Leu Pro Val Phe Glu His Tyr  
 100 105 110  
 His Glu Gly Thr Asp Ser Tyr Glu Leu Thr Gly Leu Ala Arg Gly Gly  
 115 120 125  
 Glu Gln Leu Ala Lys Leu Lys Arg Asn Tyr Ala Lys Ala Val Glu Leu  
 130 135 140  
 Leu Val Glu Leu Ala Ser Leu Gln Thr Ser Phe Val Thr Leu Asp Glu  
 145 150 155 160  
 Ala Ile Lys Ile Thr Asn Arg Arg Val Asn Ala Ile Glu His Gly Glu  
 165 170 175  
 Tyr Val Ile Ile Pro Arg Ile Glu Arg Thr Leu Ala Tyr Ile Ile Thr  
 180 185 190  
 Glu Leu Asp Glu Arg Glu Arg Glu Glu Phe Tyr Arg Leu Lys Lys Ile  
 195 200 205  
 Gln Glu Lys Lys Lys Ile Leu Lys Glu Lys Ser Glu Lys Asp Leu Glu  
 210 215 220  
 Gln Arg Arg Ala Ala Gly Glu Val Leu Glu Pro Ala Asn Leu Leu Ala  
 225 230 235 240  
 Glu Glu Lys Asp Glu Asp Leu Leu Phe Glu  
 245 250

&lt;210&gt; 4505

&lt;211&gt; 379

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4505

gaattcacca agaagatgcc tggaggagag ccaaggctga agatgctgcc gaccccagtg  
 60  
 ccgggctctc tagagcatgt gttacagtca aatcagagac agaaagagcg gagaagacag  
 120  
 tggtaggcttt ggctgtccag cctcagtaat cagatacatc ctacaccttc agcacagggc  
 180  
 caggcagcct tgaggcaaac atgtcccat ctcagggaat caggaccatt gagtgtgagg  
 240  
 catgtggccc tcttggccct ggagacagca tcacaccct caggggcccca cacgaaccag  
 300  
 gcccctagcc ctgcaacgtc tcttaaagtc ccctcagagc cagcaactcc atcttcaca  
 360  
 gattcactaa tcaagatct  
 379

&lt;210&gt; 4506

&lt;211&gt; 121

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4506

```

Met Pro Gly Gly Glu Pro Arg Leu Lys Met Leu Pro Thr Pro Val Pro
 1           5           10           15
Gly Ser Leu Glu His Val Leu Gln Ser Asn Gln Arg Gln Lys Glu Arg
      20           25           30
Arg Arg Gln Trp Trp Leu Trp Leu Ser Ser Leu Ser Asn Gln Ile His
      35           40           45
Pro Thr Pro Ser Ala Gln Gly Gln Ala Ala Leu Arg Gln Thr Cys Pro
      50           55           60
His Leu Arg Glu Ser Gly Pro Leu Ser Val Arg His Val Ala Leu Leu
65           70           75           80
Ala Leu Glu Thr Ala Ser His Pro Ser Gly Pro His Thr Asn Gln Ala
      85           90           95
Pro Ser Pro Ala Thr Ser Pro Lys Cys Pro Ser Glu Pro Ala Thr Pro
      100          105          110
Ser Ser Thr Asp Ser Leu Ile Lys Ile
      115          120

```

&lt;210&gt; 4507

&lt;211&gt; 3664

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4507

```

agcacttcct taaaaagaaa agtctagtaa cgaggccatc ccggcgctcag aagcgggtcag
60
gctggggtttg acaagatcag aaccgaaatg actacgaaag tgggaatata aggaggtgca
120
tttactacac attaacgttc agcgaactcc cacaatcttt aaacacacag ccattggaag
180
gacgatcttg agcaggaagg gtttttactc gttgtggtgc gctgtcttcc cgcttgctgc
240
agggacctgc ccgactcagt ggccgccatg gcatcagatg aaggcaaact ttttgttgga
300
gggctgagtt ttgacaccaa tgagcagtcg ctggagcagg tcttctcaaa gtacggacag
360
atctctgaag tgggtggtgt gaaagacagg gagaccaga gatctcgggg atttgggttt
420
gtcacctttg agaacattga cgacgctaag gatgccatga tggccatgaa tgggaagtct
480
gtagatggac ggcagatccg agtagaccag gcaggcaagt cgtcagacaa ccgatcccgt
540
gggtaccgtg gtggctctgc cgggggccgg ggcttcttcc gtgggggccg aggacggggc
600
cgtgggttct ctagaggagg aggggaccga ggctatgggg ggaaccggtt cgagtccagg
660
agtgggggct acggaggctc cagagactac tatagcagcc ggagtcagag tgggtggtac
720
agtgaccgga gctcgggccg gtcctacaga gacagttacg acagttacgc tacacacaac
780

```



gagtaaaaac ccttcctgct caagatcgct cttccaatgg ctgtgtgttt aaagattgtg  
840  
ggagcttcgc tgaacgttaa tgtgtagtaa atgcacctcc ttgtattccc actttcgtag  
900  
tcatttcggg tctgatcttg tcaaaccag cctgaccgct tctgacgccg ggatggcctc  
960  
gttactagac ttttcttttt aaggaagtgc tgtttttttt tgagggtttt caaaacattt  
1020  
tgaaaagcat ttactttttt gaccacgagc catgagtttt caaaaaaatc ggggggtgtg  
1080  
tgggtttttg gtttttgttt tagtttttgg ttgcgttgcc tttttttttt tagtgggggt  
1140  
ggccccatga agtgggtgcc ccactcactt ctctgagatc gaacggactg tgaatccgct  
1200  
ctttgtcgga agctgagcaa gctgtggctt ttttccaact ccgtgtgacg tttctgagtg  
1260  
tagtgtggtg ggaccccgcc ggggtgtggca gcaactgccc tggagcccca gcccttgcgt  
1320  
ccatctgtgc tgtgcgcccc acagtagacg tgcagacgct cctgagaggt tcttgaagat  
1380  
gtttatttat attgtccttt tttactggaa gacgtacgca tactccatcg atgttgatt  
1440  
tgcagtggct gaggaattct tgtacgcagt tttctttggc tttacgaagc cgattaaaag  
1500  
accgtgtgaa atgaaccttg ctctgacaat tcccttgcat tgcaccacac actccttgct  
1560  
gcggtctcct gcagccagac ctgagcagag agagaagggtg gagaagcagc ggggtctgcaa  
1620  
gccttccttg gggcctgcag agctagaaaag ggaggcccag cagactggcg ctggtcaggg  
1680  
taggggagcc aggcggggga cgggagcggg cagctcaggc ctcagggcag ccctgggagg  
1740  
cttctggcag tgggtggccag agggctggac tgtgcgggca gcttagcagg gacagtggac  
1800  
gtgcacctga cgctgacctg gactgcctca gtctagaagc aggcagaga gcagaggcac  
1860  
gtggcatccc agggcgacct cagacggcca gccggttagc tagttctgct gttgcttcac  
1920  
gagttctgag cattctctgc tagcctatgg aagctgcagc cctcggagga cagaagtgtt  
1980  
gtgcgccccaa cagaacctc tgagacgcaa gctgctccct tggetagctc atatgtggaa  
2040  
atagccctgt aattcgaggt aactccttcc gctcgtgtcc acatccctct tgttgagagc  
2100  
tcactgaaag tcatgtgccg ggggaatgtt cctgtgactg ttttttgttt ttctttttt  
2160  
ttttaacttt gtttttgttt ttttcaatta agctggaact aaagtcaggc ccagccatta  
2220  
cgctccccac gtgcagccag gtgcagcctg ggcccagtca tgctggctc atagatgaaa  
2280  
tcccttaagc aggattgaag accagtgaac gccccgcct tttggatttt ttgctcaatt  
2340  
gaccgtcttt tccagacctc tttaagtcac actcttaact tagctttctc tgatgtctgt  
2400

tgccgccatt agtttttttc tagagcccac actggcccac atagctccat cccatacggg  
 2460  
 tagctggctc cagctgcgcc aaggtgcaga cccgccctgg gcatgctggc ctgtgacgga  
 2520  
 gcctgaggtc acagccccct gactagcctg agaccttcct aggggctgtg gctgtttccg  
 2580  
 gggaggcccg gaggggcagc tgtgagccct gtggaggacg ttgggagtaa cgctgctttg  
 2640  
 ctttggcagg ttgaaggggc ccggccagga ctcggggaag ggtggcctga gagcagcgat  
 2700  
 gacctctggg gtcactgtcc caggagggac ttcacctgga acaagagctg gaggcagccg  
 2760  
 cttgcccagg aggcttgtcc cctgaggcgc ttcgccagtg aggtgcgggc tcagggcctc  
 2820  
 gagtctctcc tggagcacgg gctgcggtgc gccggcagct tacggggcgg ccagtccttg  
 2880  
 cccacaacga tgtggagccc tgtgaaagtc ggattcgaat aaagggccac gtgtgcaccc  
 2940  
 agaaagccga gtctgtggtt caggggggtc tgtcggcgga gcggggccac tggaagaaaa  
 3000  
 gcctgcggac ctcggttcag cgcacgagta ggaccgaca ggaagactg caagggtcat  
 3060  
 tgtccagca gtgaccgcg ggggctcgcc actgaggggg ttcgcagcgc ggagactcca  
 3120  
 gtctcgcggg atctgaggcg cactcggtt cgagggagcg gcggccgcgc agccgctgtc  
 3180  
 agggcccgtc ttgggcccag tcccgggttc cctgtagcag gctggggagc ggggcgccac  
 3240  
 cttcctgggc cctggacgtg gccgacgct tctcagtgtc cgtgaggccg gggcaggagt  
 3300  
 ggcgggggtc gccccgaagt ggggtgggaat gagcgccccg aggtcctgaa gtcgggggtc  
 3360  
 gcccgtctc cccgtgccca gcccgatttc ctcggaagcc gcgaccccc acgctgggtc  
 3420  
 ggcagttctg ggcctcgccg gctgcgcctt gccgggactc ccacgggcgg gctccgggcc  
 3480  
 tccgtcctga tcccttgag cgggtcgacg aagcaagtcc cgcggcgggc gcgcggggca  
 3540  
 ctgtgggtag cgccggggct caccaggcgg aaggggggcc cggcgtcaag ctccgcctcc  
 3600  
 gcgccccatt ggctggcatc acctccgcgc gcctgactga cagcgcgcat aggggcgtgg  
 3660  
 cgcc  
 3664

<210> 4508

<211> 172

<212> PRT

<213> Homo sapiens

<400> 4508

Met Ala Ser Asp Glu Gly Lys Leu Phe Val Gly Gly Leu Ser Phe Asp

1

5

10

15

Thr Asn Glu Gln Ser Leu Glu Gln Val Phe Ser Lys Tyr Gly Gln Ile

```

                20                25                30
Ser Glu Val Val Val Val Lys Asp Arg Glu Thr Gln Arg Ser Arg Gly
                35                40                45
Phe Gly Phe Val Thr Phe Glu Asn Ile Asp Asp Ala Lys Asp Ala Met
                50                55                60
Met Ala Met Asn Gly Lys Ser Val Asp Gly Arg Gln Ile Arg Val Asp
65                70                75                80
Gln Ala Gly Lys Ser Asp Asn Arg Ser Arg Gly Tyr Arg Gly Gly
                85                90                95
Ser Ala Gly Gly Arg Gly Phe Phe Arg Gly Gly Arg Gly Arg Gly Arg
                100                105                110
Gly Phe Ser Arg Gly Gly Gly Asp Arg Gly Tyr Gly Gly Asn Arg Phe
                115                120                125
Glu Ser Arg Ser Gly Gly Tyr Gly Gly Ser Arg Asp Tyr Tyr Ser Ser
                130                135                140
Arg Ser Gln Ser Gly Gly Tyr Ser Asp Arg Ser Ser Gly Gly Ser Tyr
145                150                155                160
Arg Asp Ser Tyr Asp Ser Tyr Ala Thr His Asn Glu
                165                170

```

<210> 4509  
 <211> 11680  
 <212> DNA  
 <213> Homo sapiens

```

<400> 4509
nncagcagtg attccagcag tagttcaagt gatgattctc cagctcgatc agttcagttc
60
gcagcagtcct ctgcacccac ttcccagttg ctttcatctc tggaaaaaga tgagccccgt
120
aaaagttttg gcatcaaggt ccagaatctt ccagtacgct ctacagatac aagccttaaa
180
gatggccttt tccatgaatt taagaaatct ggaaaaagtaa cttcagtgca gatacatgga
240
acttcagaag agaggtatgg tctggtattc ttccggcagc aagaggacca agaaaaagcc
300
ttgactgcat caaaaggaaa acttttcttt ggcatgcaga ttgaagtaac agcatggata
360
ggtccagaaa cagaaagtga aaatgaatct cgccccttgg atgaaaggat agatgaatct
420
caccccaaag caacaagaac tctctttatt ggcaaccttg aaaaaaccac tacttaccat
480
gaccttcgca acatcttcca gcgctttgga gaaattgtgg atattgacat taagaaagta
540
aatggagttc ctcagtatgc gtttctgcaa tactgtgata ttgctagcgt ttgtaaagct
600
attaagaaga tggatgggga atatcttgga aataatcgcc tcaagctggg ttttggaaag
660
agcatgccta caaactgcgt gtggctagat gggctttctt cgaatgtgac agatcagtat
720
ttaacacgac atttctgccg atatgggcct gtggtaaagg tgggtgttga ccgcttaaaa
780
ggcatggccc tggttctcta caatgaaatt gaatatgcac aagcagctgt aaaagagacc
840

```

aaagggagga aaatcggtag gaataaaatt aaggtggatt ttgcaaactg ggaaagtcag  
900  
ctggcttttt atcactgcat ggagaaatct ggtcaagaca tcagagactt ttatgaaatg  
960  
ttagccgaaa gaagagagga acgaagggca tcctacgact ataaccaaga tcgtacatat  
1020  
tatgagagtg ttcgaactcc aggcaattat cctgaggatt ccaggcggga ctatccagct  
1080  
cgaggagag agttttattc agaatgggaa acttaccaag gagactacta tgaatcacga  
1140  
tactacgatg atcctcggga atacagggat tacaggaatg atccttatga acaagatatt  
1200  
agggaatata gttacaggca aagggaaacga gaaagagaac gtgaaagatt tgagtctgac  
1260  
cgggacagag accatgagag gaggccgatt gaacgaagtc aaagtcctgt tcacttgcca  
1320  
cgtccacaga gtctcggagc gtctccctct caggcagaga ggttgccgag tgattctgag  
1380  
aggaggcttt acagccgatc ctacagaccg agtgggaagct gtagctcact ctcccctcca  
1440  
agatatgaga aactggacaa gtctcgtttg gagcgctata caaaaaatga aaagacagat  
1500  
aaagaacgaa cttttgatcc ggagagagtg gagagagaga gacgcttaac acggaaggaa  
1560  
aaagtggaaa aggacaaaac tgacaagcag aaacgcaaag gaaagggtca ctcccctagt  
1620  
tctcagtcct cagaaacgga ccaagaaaat gagcgagagc aaagccctga aaagcccagg  
1680  
agttgtaata aactgagcag agagaaagct gacaaagagg gaatagcgaa aaaccgctg  
1740  
gaactcatgc cttgcgtggt tttgactcga gtgaaagaga aagagggaaa ggtcattgac  
1800  
cacactcctg tggaaaagt gaaagccaag cttgataatg acactgtcaa atcttctgac  
1860  
ctggaccaga aacttcaggt ctctcagacg gagcctgcaa aatctgactt gtctaaactg  
1920  
gaatcagtta gaatgaaagt accaaaggaa aaggggcttt caagccatgt tgaagtggg  
1980  
gagaaggaag gcaggcttaa agccaggaag cacctcaagc ctgagcagcc tgcagatggg  
2040  
gtaagtgtg tggatctgga gaagctggaa gccaggaaaa ggcgctttgc agattccaat  
2100  
ttaaaagcag aaaagcaaaa accagaggtc aagaaaagca gtccagagat ggaggatgct  
2160  
cgcgtgcttt caaaaaagca gcctgacgtg tcctctagag aggtcattct gctgagggaa  
2220  
ggagaggctg aaagaaagcc tgtgaggaaa gaaattctta aaagagaatc taaaaaatc  
2280  
aaactggaca gacttaatac tgttgccagc cccaaagact gtcaggagct tgccagtatt  
2340  
tctgttgggt ctggctcaag gccagctca gacctacaag caagactggg agaactagca  
2400  
ggtgaatctg tggaaaatca agaagtccaa tcaaaaaagc ccattccctc aaaaccacag  
2460

ctcaaacagc tgcaggtatt agatgatcaa ggaccagaga gagaagacgt taggaaaaac  
2520  
tattgcagtc ttcgtgatga aacacctgaa cgtaaatacag gccaagagaa atcacattca  
2580  
gtaataactg aagaaaaaat tggcattgac atcgatcaca cgcagagtta ccgaaaacaa  
2640  
atggaacaga gtcgtaggaa acagcagatg gaaatggaaa tagccaagtc tgagaagttt  
2700  
ggcagtccta aaaaagatgt agatgaatat gaaagacgta gcctcgttca cgaggtaggc  
2760  
aaacccctc aagatgtcac tgatgactct cctcctagca aaaagaaaag gatggatcat  
2820  
gtcgattttg atatctgcac caagcgagaa cggaattaca gaagttcacg ccaaatacagc  
2880  
gaagattctg aaaggactgg tggttctccc agtgtccgac atggttctt ccatgaagat  
2940  
gaggatccca taggctcccc taggctactg tcagtaaaag ggtctcctaa agtagatgaa  
3000  
aaagtcctcc cctattctaa cataacagtc agggaagagt ctttaaaatt taatccttat  
3060  
gattctagca ggagagaaca gatggcagat atggccaaaa taaaactatc tgtcttgaat  
3120  
tctgaagatg aactaaatcg ttgggactct cagatgaaac aggatgctgg cagatttgat  
3180  
gtgagtttcc caaacagcat aattaagaga gatagccttc gaaaaaggtc tgtacgagat  
3240  
ctggaacctg gtgaggtgcc ttctgattct gacgaagatg gtgaacacaa atccactca  
3300  
cccagcct ctgcattata tgaaagttct cgattgtctt ttttattgag ggacagagaa  
3360  
gacaagctac gtgagcgaga tgaaagactc tctagttctt tagaaaggaa caaatcttac  
3420  
tcttttgcac tggataagac aatcacacca gacactaaag ctttgcttga aagagctaaa  
3480  
tccctctctt catctcgtga agaaaattgg tcttttcttg attgggactc ccgatttgca  
3540  
aattttcgaa acaacaaaga taaagaaaag gttgactctg ctccaagacc tattccatcc  
3600  
tggtagatga aaaagaagaa aattaggact gattcagaag ggaaaatgga tgataagaaa  
3660  
gaggaccata aagaagaaga gcaagagagg caggaattgt ttgcttctcg ttttttacac  
3720  
agctcaatct ttgaacaaga ttccaagcga ttgcagcatc tagagagaaa agaggaagat  
3780  
tctgacttca tttctggtag gatctatggg aagcagacat ctgaggaggc aaacagcaca  
3840  
actgattcca ttcaagaacc agtagttctg ttccatagca gatttatgga gctcacacgg  
3900  
atgcaacaga aaaaaaaga aaaagaccag aaacccaaag aggttgagaa acaggaagat  
3960  
acagagaatc atcccaaac ccagaaatct gtcctgaga ataaagattc agaactgaaa  
4020  
actccacctt ccgttgggcc tccaagtgtc acagtcgtaa ctctagaatc agcccatca  
4080

gcactagaga agaccactgg tgacaaaacg gtagaggcgc ctttggtaac agaagagaag  
4140  
actgtggagc cagctaccgt ctcagaagaa gcaaagcctg catctgaacc tgctcctgcc  
4200  
cctgtggaac agctggaaca agtagacctg cccccaggag cagaccccca taaagaagct  
4260  
gccatgatgc ctgcggtgtg tgaggaaggt tcatcaggtg accagccgcc ttatctggat  
4320  
gccaagcctc caactcccgg ggctcgttt tcccaggcag agagcaacgt agatccagag  
4380  
cctgacagta cccagccact ttcaaaacca gctcagaagt ctgaggaagc caatgagcca  
4440  
aaggccgaaa agccagacgc cactgcagat gctgagcctg atgcaaacca gaaagccgaa  
4500  
gctgctcctg agtctcagcc cccagcttct gaagatttag aggttgatcc tccagttgct  
4560  
gcaaaggata aaaagccaaa caaaagcaag cgttcaaaga cccctgttca ggcagctgca  
4620  
gtgagtatcg tggagaagcc cgtcacaagg aagagtgaga ggatagaccg ggaaaaactc  
4680  
aagcgggtcca attctcctcg gggagaagca cagaagcttt tggattgaa gatggaggca  
4740  
gagaagatta caaggactgc ttctaaaaac tctgctgcag acctgaaca tcccgaacca  
4800  
agtttgctc tcagccgaac aaggcgccgg aatgtaagga gcgtctatgc aacctgggt  
4860  
gaccatgaaa accgctctcc tgtcaaagag cccgttgagc aaccaagagt gaccagaaa  
4920  
agattggagc gagagcttca ggaggctgca gcggttccca ccaccctcg gagggaagg  
4980  
cctccaaaga cacgccggcg agccgatgaa gaggaggaga acgaggccaa ggaacctgca  
5040  
gaaacactca agccacctga gggatggcgg tcgccaaggt cccagaaaac tgcagctggt  
5100  
gggtggacccc aagggaataa gggaaaaaat gaaccgaagg tggatgctac acgtcctgag  
5160  
gccaccactg aggtgggccc ccaaataggc gtgaaagaga gctccatgga acccaaggct  
5220  
gctgaggagg aggcaggag tgaacagaaa cgtgacagaa aagatgctgg cacagacaaa  
5280  
aaccctctg aaaccgccc tgttgaagtt gtagagaaaa aaccggcccc tgaaaaaac  
5340  
tccaaatcaa agagaggaag atctcgaaac tccaggtag cagtgacaaa atctgcaagt  
5400  
ctgaaaaatg tggatgctgc tgtcagtcac aggggggctg cagcacaggc aggggagagg  
5460  
gaatctgggg tgggtggcagt ctcccctgag aaaagtgaga gtccccaaaa ggaggatggt  
5520  
ttatcatccc agttgaaaag tgatccagtt gatccagaca aggaaccaga gaaagaagac  
5580  
gtgtctgcct ctgggcccgc cccagaagcc acccagttag ccaagcagat ggagctggag  
5640  
caggccgtgg aacacatcgc aaagctcgct gaggcctctg cctctgctgc ctataaggca  
5700

gatgcaccag agggccttgc cccagaggac agggacaagc ctgcacacca agcaagtga  
5760  
acagagctgg ctgcggccat cggtccatc atcaatgaca tttctgggga gccagaaaac  
5820  
ttcccagcac ctccacctta tcctggagaa tcccagacag atctgcaacc ccccgaggt  
5880  
gcacaggcgc tgcagccttc tgaggaagga atggagacag atgaggctgt atctggcatc  
5940  
ctggaaactg aggtgctac agaattctt aggcctccag tcaatgctcc tgacccctca  
6000  
gccggcccaa cagataccaa ggaagccaga ggaaatagca gtgaaacctc aactcagtg  
6060  
ccagaagcca aagggtctaa agaagtggaa gtcactcttg ttcggaaaga caaagggcgc  
6120  
cagaaaacaa cccgatcacg ccgcaagcga aacacaaaca agaaagtggg ggctcctgta  
6180  
gagagccatg tccctgaatc caaccaagct caaggtgaga gtctgtctgc aaatgagggg  
6240  
acaacagtac agcaccccg agcccccacag gaagaaaagc agagtgagaa accccattcc  
6300  
actcctctc agtcatgtac ttctgacct agcaagattc cctccacaga gaattcgctc  
6360  
caagaaatca gtgttgagga aaggactcca accaaagcat ctgtgcccc agaccttccc  
6420  
ccacctcccc agccagcacc ggtggatgag gagcctcaag ccagggtcag ggtgcattcc  
6480  
atcattgaaa gtgaccgggt gacccacccc agcgatccaa gcatccccat acccacactg  
6540  
ccttctgtaa ctgcagcaaa gctctcacct cctgtcgcct ctggggggat cccacaccag  
6600  
agcccccta ctaaggtgac agagtggatc acaaggcagg aggagccacg ggctcagtct  
6660  
actccatctc cagctcttcc cccagacaca aaggcctctg atgttgacac cagctccagc  
6720  
accctgagga agattctcat ggacccaag tatgtgtctg ccacaagtgt cacttcaca  
6780  
agtgtcacca cagccattgc agagcctgtc agtgctgccc cttgcctaca tgaggccccg  
6840  
ccccgccag ttgactctaa aaagccttta gaagaaaaaa cagcacctcc agtgacaaac  
6900  
aactctgaga tacaagcctc ggaggtgctg gtagctgctg acaaggaaaa ggtggctcca  
6960  
gtcattgctc ccaaaattac ctctgttatt agccggatgc ctgtcagcat tgacctggaa  
7020  
aattcacaga agataacctt ggcaaaacca gctcctcaaa ccctcactgg tctggtgagc  
7080  
gcactcactg gcctggtgaa cgtctccctg gtcccggtga atgcctgaa aggccccgtg  
7140  
aagggtcag tgaccacact gaaaagttt gtgagcacc ctgctgggccc cgtgaacgtc  
7200  
ctgaaagggc ctgtgaatgt tcttacgggg ccagtgaatg ttctcaccac tccagtgaac  
7260  
gccacggtgg gcacagtga tgccgcccc ggcacagtca atgccgctgc gagtgcagt  
7320

aatgccacag caagtgcagt gaccgtcaca gcggtgcgg ttactgctgc atctggtggt  
7380  
gtaacggcca caacaggcac ggtgacaatg gcaggggcag tgattgcgcc gtcaacaaag  
7440  
tgcaaacaga gagcgagtgc taatgaaaac agtcggttcc acccagggtc catgcctgtg  
7500  
atcgacgatc gtccggcaga cgcgggctca ggggcggggc tgcgtgtgaa cacttctgaa  
7560  
ggggttgtgc tcctgagtta ctcagggcag aagaccgaag gcccacagcg gatcagcgcc  
7620  
aagatcagcc agatccccc ggccagtgc atggacattg aatttcagca gtcagtgtcc  
7680  
aagtoocagg tcaaacctga ttctgtcaca gcatcgagc ctccatccaa aggccctcaa  
7740  
gctcctgcag gctatgcgaa cgtggccacc cattccacgt tggtagtgac cgcccagaca  
7800  
tataatgcct ctctgtgat ttcgtctgtg aaggccgata ggccatcctt ggagaagccc  
7860  
gagcccatc acctctcggg gtccacgcct gtcaccagc gaggcacagt gaagggtctc  
7920  
accagggga tcaacacacc ccctgtgtg gttcacaacc agctggtcct caccacaagc  
7980  
attgtacca caaacaagaa gcttgtgac ccggtcacc ttaaaatcga gaccaaggtc  
8040  
cttcagccg ccaacctggg gtccacgctc acgccccacc accctcctgc tctgcccagc  
8100  
aaactgccta cagaagtcaa ccatgtcccc tcggggccca gcatccagc agatcgaact  
8160  
gtctccatt tggcagctgc aaagctagat gctcattctc ctgaccaag tggacccggg  
8220  
ccatcctcat tccaagggc aagccacccc agcagtactg catctacggc gctctccacc  
8280  
aacgccacag tcatgtggc tgcaggcatc ccagtgcacc agttcatctc cagcatccac  
8340  
ccagagcagt ctgtcatcat gccacccac agcatcacc agactgtgtc cctgagccac  
8400  
ctctcccagg gcgaggtgag aatgaacact ccacgctgc ccagtatcac ctacagcatc  
8460  
cggccagaag cgcttcactc tcctcgggct ccgctgcagc ccagcaa at agaggtcagg  
8520  
gcccacagc gtgccagcac ccgcagcca gcccagctg gtgtgcctgc actggcctcc  
8580  
cagcacctc ccgaggagga agtgcaattat caccttctg tcgctcgagc cacagccct  
8640  
gtgcagtcag aggtactagt catgcagtct gagtaccgac tgcacccta tactgtgcca  
8700  
cgggatgtga ggatcatggt gcatccacat gtgacggcag tcagcgagca gcccagggcc  
8760  
gcggatggg tggtaagggt gccaccagcc agcaaggccc ctgagcagcc aggaaggaa  
8820  
gctgccaaga caccagatgc caaagctgcc cccacccca cccctgccc cgtccctgtc  
8880  
cctgtcccc ttctgcccc tgcctctgcc cctcatggtg aggcctgtat cctcacagtt  
8940



acccccagta accaactcca ggggctgcct ctgacccctc ctgtggtggt gacccatggg  
9000  
gtgcagattg tgcactccag cggggagctg tttcaagagt accggtacgg cgacatccgc  
9060  
acctaccacc ccccggccca gctcacacac actcagtttc ccgccgttc ctctgttggc  
9120  
ctgccttccc ggaccaagac agctgctcag ggccctctc ctgaagggtga gccctgcag  
9180  
cctcctcagc ctgtgcagtc cacacagcct gccagcctg caccaccctg cccgccctcc  
9240  
cagctcggtc agcccgcca gccaccaagc agcaagatgc ctcaagtgtc ccaggaggca  
9300  
aaggggaccc agacgggagt agagcagcct cgcctcccag ctggacctgc aaacaggcca  
9360  
cctgagcctc acaccaggt tcagaggcca caagcagaaa caggcccgac ttccttcccc  
9420  
tccctgtgt ctgtctccat gaagcctgac cttccagtct ctcttccac tcagactgcc  
9480  
ccaaaacagc cgttgtttgt cccaacaacc tctggcccca gcacccacc aggactggtt  
9540  
ctgccacaca ctgaattcca gccagcccc aaacaagatt cctctccaca cctgacttcc  
9600  
cagagaccgc tggatatggt tcaacttctg aagaagtacc ccatcgtgtg gcagggcctg  
9660  
ctggccctca agaatgacac agctgctgtg cagctccact tcgtctctgg caacaacgtc  
9720  
ctggcccatc ggtccctgcc cctttctgaa ggagggcccc cactaaggat cgcccagagg  
9780  
atgcggctgg aggcaacgca gctggaagg gttgccgaa ggatgacgct ggcctctgcc  
9840  
tcagtggaga cagattactg tctgctgtg gctctgccct gtggccgtga ccaagaggat  
9900  
gttgtagacc agaccgagtc cctcaaggct gccttcatca cttacctgca ggccaagcag  
9960  
gcggcaggga tcatcaacgt tcccaacct ggctccaatc agcctgccta cgtgctgcag  
10020  
atcttccccg cctgtgagtt ctctgagagt cacctgtccc gcctggcccc tgacctctt  
10080  
gccagcatct ccaacatctc tccccacctc atgattgtca ttgcctcgt gtgagccact  
10140  
gagtggttat cacctcagtg aatcttccca gggctctgca gtaaaaacaa aggacaaccc  
10200  
agccaagcag aggaagaagc tgccgaagg gacagactcc actgccagac ggccagccgt  
10260  
ttgctgtcct gccgcccggc tcagtcggcc agacttctc taggagtggg gctgctacct  
10320  
tgtatgttta cataatgctt tagcccaagg acacatcacc aacctatgga ctgcagaca  
10380  
ccggggctgg gtttctctt cctctttttg gagaaaagga acagggcagt ggaatgaaaa  
10440  
tttttgttt gtttgtttt aagaaacaag aaaacagaac tgcctttgca ctaaattagt  
10500  
gacttggact tttgccagt gaagacaggc tgtgacactc tggatgtctt ggtgtgtgta  
10560

gacacacatt gcagactctt aacgcaggaa ggacttcaaa cttctgctga gaccttgggg  
 10620  
 tcaaggaaca ttccattggt tttttttgtc ccccccatc tcccttgctc atttggtatg  
 10680  
 gtcaccttaa ttctcctgct gccaccgtct ttgattcacc gggatgtaca gtttacagtt  
 10740  
 gaagagcaaa cagaaagggt ttctcttggt gggatatgca gaacttggga tgtgtgtata  
 10800  
 tataaatata taatatatat aaatatatat aatactgact taaaaaatca aatccccga  
 10860  
 catacgtttt ttttaatctg tgccaaaaat gtgttttcag aggaaatctt attttcatat  
 10920  
 tcagactttg tattgcccac tcatttgtat aagtgcgctt cggtagacga cgggtcctgc  
 10980  
 tcccgcgatg tggaagtgtc acacggcacc tgtacaaaaa gactggctaa cccctcttcc  
 11040  
 tattaccttg atctcttccc ccaacttcct aacacttatt aatttatgaa actgtttttc  
 11100  
 tcagcgcagt tttgttttgt gtgtccattg gattacaaac tttattaaaa aatataaaac  
 11160  
 acaccaagtg tgagtgtgat tgtcacttgg gtgggaagac gaaccatggg tccttggtt  
 11220  
 atgggaacag tcagccctca tcccgtttt gctcccatg ccaagtctgt acatgggaac  
 11280  
 tgtttccctt ctgcctcta gtcagtcagt cctctcccc aaggataatt ttatcttgta  
 11340  
 caaaggagat tttgtcacg gacactgaac ttaaccattt ctactcttg tgggtgtctc  
 11400  
 agagtcctaa ctggttctta ggtaatgtgg aaggaaggca cttccaattt tgatacagaa  
 11460  
 tataaccaca ccccatgcc a ttcagaaac attttagcaa gctttgggtt cttgtctctc  
 11520  
 tcttgcccc tcttcccttc tcccagtgtg aagcaggctg actcctgcag aggcagtggc  
 11580  
 ctgctggagc cctgggggct catttgatcc cgtctctgcc tccagacagg agaatgggag  
 11640  
 ttggggacag gcttccctg cagctggatt ctctagaagc  
 11680

&lt;210&gt; 4510

&lt;211&gt; 3266

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4510

Met	Gln	Ile	Glu	Val	Thr	Ala	Trp	Ile	Gly	Pro	Glu	Thr	Glu	Ser	Glu
1				5					10					15	
Asn	Glu	Phe	Arg	Pro	Leu	Asp	Glu	Arg	Ile	Asp	Glu	Phe	His	Pro	Lys
			20					25					30		
Ala	Thr	Arg	Thr	Leu	Phe	Ile	Gly	Asn	Leu	Glu	Lys	Thr	Thr	Thr	Tyr
		35					40					45			
His	Asp	Leu	Arg	Asn	Ile	Phe	Gln	Arg	Phe	Gly	Glu	Ile	Val	Asp	Ile
	50					55					60				
Asp	Ile	Lys	Lys	Val	Asn	Gly	Val	Pro	Gln	Tyr	Ala	Phe	Leu	Gln	Tyr

```

65              70              75              80
Cys Asp Ile Ala Ser Val Cys Lys Ala Ile Lys Lys Met Asp Gly Glu
85              90              95
Tyr Leu Gly Asn Asn Arg Leu Lys Leu Gly Phe Gly Lys Ser Met Pro
100            105            110
Thr Asn Cys Val Trp Leu Asp Gly Leu Ser Ser Asn Val Ser Asp Gln
115            120            125
Tyr Leu Thr Arg His Phe Cys Arg Tyr Gly Pro Val Val Lys Val Val
130            135            140
Phe Asp Arg Leu Lys Gly Met Ala Leu Val Leu Tyr Asn Glu Ile Glu
145            150            155            160
Tyr Ala Gln Ala Ala Val Lys Glu Thr Lys Gly Arg Lys Ile Gly Gly
165            170            175
Asn Lys Ile Lys Val Asp Phe Ala Asn Arg Glu Ser Gln Leu Ala Phe
180            185            190
Tyr His Cys Met Glu Lys Ser Gly Gln Asp Ile Arg Asp Phe Tyr Glu
195            200            205
Met Leu Ala Glu Arg Arg Glu Glu Arg Arg Ala Ser Tyr Asp Tyr Asn
210            215            220
Gln Asp Arg Thr Tyr Tyr Glu Ser Val Arg Thr Pro Gly Thr Tyr Pro
225            230            235            240
Glu Asp Ser Arg Arg Asp Tyr Pro Ala Arg Gly Arg Glu Phe Tyr Ser
245            250            255
Glu Trp Glu Thr Tyr Gln Gly Asp Tyr Tyr Glu Ser Arg Tyr Tyr Asp
260            265            270
Asp Pro Arg Glu Tyr Arg Asp Tyr Arg Asn Asp Pro Tyr Glu Gln Asp
275            280            285
Ile Arg Glu Tyr Ser Tyr Arg Gln Arg Glu Arg Glu Arg Glu Arg Glu
290            295            300
Arg Phe Glu Ser Asp Arg Asp Arg Asp His Glu Arg Arg Pro Ile Glu
305            310            315            320
Arg Ser Gln Ser Pro Val His Leu Arg Arg Pro Gln Ser Pro Gly Ala
325            330            335
Ser Pro Ser Gln Ala Glu Arg Leu Pro Ser Asp Ser Glu Arg Arg Leu
340            345            350
Tyr Ser Arg Ser Ser Asp Arg Ser Gly Ser Cys Ser Ser Leu Ser Pro
355            360            365
Pro Arg Tyr Glu Lys Leu Asp Lys Ser Arg Leu Glu Arg Tyr Thr Lys
370            375            380
Asn Glu Lys Thr Asp Lys Glu Arg Thr Phe Asp Pro Glu Arg Val Glu
385            390            395            400
Arg Glu Arg Arg Leu Ile Arg Lys Glu Lys Val Glu Lys Asp Lys Thr
405            410            415
Asp Lys Gln Lys Arg Lys Gly Lys Val His Ser Pro Ser Ser Gln Ser
420            425            430
Ser Glu Thr Asp Gln Glu Asn Glu Arg Glu Gln Ser Pro Glu Lys Pro
435            440            445
Arg Ser Cys Asn Lys Leu Ser Arg Glu Lys Ala Asp Lys Glu Gly Ile
450            455            460
Ala Lys Asn Arg Leu Glu Leu Met Pro Cys Val Val Leu Thr Arg Val
465            470            475            480
Lys Glu Lys Glu Gly Lys Val Ile Asp His Thr Pro Val Glu Lys Leu
485            490            495
Lys Ala Lys Leu Asp Asn Asp Thr Val Lys Ser Ser Ala Leu Asp Gln

```

**3700**

930 935 940  
 Ala Gly Arg Phe Asp Val Ser Phe Pro Asn Ser Ile Ile Lys Arg Asp  
 945 950 955 960  
 Ser Leu Arg Lys Arg Ser Val Arg Asp Leu Glu Pro Gly Glu Val Pro  
 965 970 975  
 Ser Asp Ser Asp Glu Asp Gly Glu His Lys Ser His Ser Pro Arg Ala  
 980 985 990  
 Ser Ala Leu Tyr Glu Ser Ser Arg Leu Ser Phe Leu Leu Arg Asp Arg  
 995 1000 1005  
 Glu Asp Lys Leu Arg Glu Arg Asp Glu Arg Leu Ser Ser Ser Leu Glu  
 1010 1015 1020  
 Arg Asn Lys Phe Tyr Ser Phe Ala Leu Asp Lys Thr Ile Thr Pro Asp  
 1025 1030 1035 1040  
 Thr Lys Ala Leu Leu Glu Arg Ala Lys Ser Leu Ser Ser Ser Arg Glu  
 1045 1050 1055  
 Glu Asn Trp Ser Phe Leu Asp Trp Asp Ser Arg Phe Ala Asn Phe Arg  
 1060 1065 1070  
 Asn Asn Lys Asp Lys Glu Lys Val Asp Ser Ala Pro Arg Pro Ile Pro  
 1075 1080 1085  
 Ser Trp Tyr Met Lys Lys Lys Lys Ile Arg Thr Asp Ser Glu Gly Lys  
 1090 1095 1100  
 Met Asp Asp Lys Lys Glu Asp His Lys Glu Glu Glu Gln Glu Arg Gln  
 1105 1110 1115 1120  
 Glu Leu Phe Ala Ser Arg Phe Leu His Ser Ser Ile Phe Glu Gln Asp  
 1125 1130 1135  
 Ser Lys Arg Leu Gln His Leu Glu Arg Lys Glu Glu Asp Ser Asp Phe  
 1140 1145 1150  
 Ile Ser Gly Arg Ile Tyr Gly Lys Gln Thr Ser Glu Gly Ala Asn Ser  
 1155 1160 1165  
 Thr Thr Asp Ser Ile Gln Glu Pro Val Val Leu Phe His Ser Arg Phe  
 1170 1175 1180  
 Met Glu Leu Thr Arg Met Gln Gln Lys Lys Lys Glu Lys Asp Gln Lys  
 1185 1190 1195 1200  
 Pro Lys Glu Val Glu Lys Gln Glu Asp Thr Glu Asn His Pro Lys Thr  
 1205 1210 1215  
 Pro Glu Ser Ala Pro Glu Asn Lys Asp Ser Glu Leu Lys Thr Pro Pro  
 1220 1225 1230  
 Ser Val Gly Pro Pro Ser Val Thr Val Val Thr Leu Glu Ser Ala Pro  
 1235 1240 1245  
 Ser Ala Leu Glu Lys Thr Thr Gly Asp Lys Thr Val Glu Ala Pro Leu  
 1250 1255 1260  
 Val Thr Glu Glu Lys Thr Val Glu Pro Ala Thr Val Ser Glu Glu Ala  
 1265 1270 1275 1280  
 Lys Pro Ala Ser Glu Pro Ala Pro Ala Pro Val Glu Gln Leu Glu Gln  
 1285 1290 1295  
 Val Asp Leu Pro Pro Gly Ala Asp Pro Asp Lys Glu Ala Ala Met Met  
 1300 1305 1310  
 Pro Ala Gly Val Glu Glu Gly Ser Ser Gly Asp Gln Pro Pro Tyr Leu  
 1315 1320 1325  
 Asp Ala Lys Pro Pro Thr Pro Gly Ala Ser Phe Ser Gln Ala Glu Ser  
 1330 1335 1340  
 Asn Val Asp Pro Glu Pro Asp Ser Thr Gln Pro Leu Ser Lys Pro Ala  
 1345 1350 1355 1360  
 Gln Lys Ser Glu Glu Ala Asn Glu Pro Lys Ala Glu Lys Pro Asp Ala

1365 1370 1375  
 Thr Ala Asp Ala Glu Pro Asp Ala Asn Gln Lys Ala Glu Ala Ala Pro  
 1380 1385 1390  
 Glu Ser Gln Pro Pro Ala Ser Glu Asp Leu Glu Val Asp Pro Pro Val  
 1395 1400 1405  
 Ala Ala Lys Asp Lys Lys Pro Asn Lys Ser Lys Arg Ser Lys Thr Pro  
 1410 1415 1420  
 Val Gln Ala Ala Ala Val Ser Ile Val Glu Lys Pro Val Thr Arg Lys  
 1425 1430 1435 1440  
 Ser Glu Arg Ile Asp Arg Glu Lys Leu Lys Arg Ser Asn Ser Pro Arg  
 1445 1450 1455  
 Gly Glu Ala Gln Lys Leu Leu Glu Leu Lys Met Glu Ala Glu Lys Ile  
 1460 1465 1470  
 Thr Arg Thr Ala Ser Lys Asn Ser Ala Ala Asp Leu Glu His Pro Glu  
 1475 1480 1485  
 Pro Ser Leu Pro Leu Ser Arg Thr Arg Arg Arg Asn Val Arg Ser Val  
 1490 1495 1500  
 Tyr Ala Thr Met Gly Asp His Glu Asn Arg Ser Pro Val Lys Glu Pro  
 1505 1510 1515 1520  
 Val Glu Gln Pro Arg Val Thr Arg Lys Arg Leu Glu Arg Glu Leu Gln  
 1525 1530 1535  
 Glu Ala Ala Ala Val Pro Thr Thr Pro Arg Arg Gly Arg Pro Pro Lys  
 1540 1545 1550  
 Thr Arg Arg Arg Ala Asp Glu Glu Glu Asn Glu Ala Lys Glu Pro  
 1555 1560 1565  
 Ala Glu Thr Leu Lys Pro Pro Glu Gly Trp Arg Ser Pro Arg Ser Gln  
 1570 1575 1580  
 Lys Thr Ala Ala Gly Gly Gly Pro Gln Gly Lys Lys Gly Lys Asn Glu  
 1585 1590 1595 1600  
 Pro Lys Val Asp Ala Thr Arg Pro Glu Ala Thr Thr Glu Val Gly Pro  
 1605 1610 1615  
 Gln Ile Gly Val Lys Glu Ser Ser Met Glu Pro Lys Ala Ala Glu Glu  
 1620 1625 1630  
 Glu Ala Gly Ser Glu Gln Lys Arg Asp Arg Lys Asp Ala Gly Thr Asp  
 1635 1640 1645  
 Lys Asn Pro Pro Glu Thr Ala Pro Val Glu Val Val Glu Lys Lys Pro  
 1650 1655 1660  
 Ala Pro Glu Lys Asn Ser Lys Ser Lys Arg Gly Arg Ser Arg Asn Ser  
 1665 1670 1675 1680  
 Arg Leu Ala Val Asp Lys Ser Ala Ser Leu Lys Asn Val Asp Ala Ala  
 1685 1690 1695  
 Val Ser Pro Arg Gly Ala Ala Ala Gln Ala Gly Glu Arg Glu Ser Gly  
 1700 1705 1710  
 Val Val Ala Val Ser Pro Glu Lys Ser Glu Ser Pro Gln Lys Glu Asp  
 1715 1720 1725  
 Gly Leu Ser Ser Gln Leu Lys Ser Asp Pro Val Asp Pro Asp Lys Glu  
 1730 1735 1740  
 Pro Glu Lys Glu Asp Val Ser Ala Ser Gly Pro Ser Pro Glu Ala Thr  
 1745 1750 1755 1760  
 Gln Leu Ala Lys Gln Met Glu Leu Glu Gln Ala Val Glu His Ile Ala  
 1765 1770 1775  
 Lys Leu Ala Glu Ala Ser Ala Ser Ala Ala Tyr Lys Ala Asp Ala Pro  
 1780 1785 1790  
 Glu Gly Leu Ala Pro Glu Asp Arg Asp Lys Pro Ala His Gln Ala Ser

1795	1800	1805
Glu Thr Glu Leu Ala Ala Ala Ile Gly Ser Ile Ile Asn Asp Ile Ser		
1810	1815	1820
Gly Glu Pro Glu Asn Phe Pro Ala Pro Pro Pro Tyr Pro Gly Glu Ser		
1825	1830	1835
Gln Thr Asp Leu Gln Pro Pro Ala Gly Ala Gln Ala Leu Gln Pro Ser		1840
1845	1850	1855
Glu Glu Gly Met Glu Thr Asp Glu Ala Val Ser Gly Ile Leu Glu Thr		
1860	1865	1870
Glu Ala Ala Thr Glu Ser Ser Arg Pro Pro Val Asn Ala Pro Asp Pro		
1875	1880	1885
Ser Ala Gly Pro Thr Asp Thr Lys Glu Ala Arg Gly Asn Ser Ser Glu		
1890	1895	1900
Thr Ser His Ser Val Pro Glu Ala Lys Gly Ser Lys Glu Val Glu Val		
1905	1910	1915
Thr Leu Val Arg Lys Asp Lys Gly Arg Gln Lys Thr Thr Arg Ser Arg		1920
1925	1930	1935
Arg Lys Arg Asn Thr Asn Lys Lys Val Val Ala Pro Val Glu Ser His		
1940	1945	1950
Val Pro Glu Ser Asn Gln Ala Gln Gly Glu Ser Pro Ala Ala Asn Glu		
1955	1960	1965
Gly Thr Thr Val Gln His Pro Glu Ala Pro Gln Glu Glu Lys Gln Ser		
1970	1975	1980
Glu Lys Pro His Ser Thr Pro Pro Gln Ser Cys Thr Ser Asp Leu Ser		
1985	1990	1995
Lys Ile Pro Ser Thr Glu Asn Ser Ser Gln Glu Ile Ser Val Glu Glu		2000
2005	2010	2015
Arg Thr Pro Thr Lys Ala Ser Val Pro Pro Asp Leu Pro Pro Pro		
2020	2025	2030
Gln Pro Ala Pro Val Asp Glu Glu Pro Gln Ala Arg Phe Arg Val His		
2035	2040	2045
Ser Ile Ile Glu Ser Asp Pro Val Thr Pro Pro Ser Asp Pro Ser Ile		
2050	2055	2060
Pro Ile Pro Thr Leu Pro Ser Val Thr Ala Ala Lys Leu Ser Pro Pro		
2065	2070	2075
Val Ala Ser Gly Gly Ile Pro His Gln Ser Pro Pro Thr Lys Val Thr		2080
2085	2090	2095
Glu Trp Ile Thr Arg Gln Glu Glu Pro Arg Ala Gln Ser Thr Pro Ser		
2100	2105	2110
Pro Ala Leu Pro Pro Asp Thr Lys Ala Ser Asp Val Asp Thr Ser Ser		
2115	2120	2125
Ser Thr Leu Arg Lys Ile Leu Met Asp Pro Lys Tyr Val Ser Ala Thr		
2130	2135	2140
Ser Val Thr Ser Thr Ser Val Thr Thr Ala Ile Ala Glu Pro Val Ser		
2145	2150	2155
Ala Ala Pro Cys Leu His Glu Ala Pro Pro Pro Pro Val Asp Ser Lys		2160
2165	2170	2175
Lys Pro Leu Glu Glu Lys Thr Ala Pro Pro Val Thr Asn Asn Ser Glu		
2180	2185	2190
Ile Gln Ala Ser Glu Val Leu Val Ala Ala Asp Lys Glu Lys Val Ala		
2195	2200	2205
Pro Val Ile Ala Pro Lys Ile Thr Ser Val Ile Ser Arg Met Pro Val		
2210	2215	2220
Ser Ile Asp Leu Glu Asn Ser Gln Lys Ile Thr Leu Ala Lys Pro Ala		

2225                      2230                      2235                      2240  
 Pro Gln Thr Leu Thr Gly Leu Val Ser Ala Leu Thr Gly Leu Val Asn  
                                  2245                      2250                      2255  
 Val Ser Leu Val Pro Val Asn Ala Leu Lys Gly Pro Val Lys Gly Ser  
                                  2260                      2265                      2270  
 Val Thr Thr Leu Lys Ser Leu Val Ser Thr Pro Ala Gly Pro Val Asn  
                                  2275                      2280                      2285  
 Val Leu Lys Gly Pro Val Asn Val Leu Thr Gly Pro Val Asn Val Leu  
                                  2290                      2295                      2300  
 Thr Thr Pro Val Asn Ala Thr Val Gly Thr Val Asn Ala Ala Pro Gly  
 2305                      2310                      2315                      2320  
 Thr Val Asn Ala Ala Ala Ser Ala Val Asn Ala Thr Ala Ser Ala Val  
                                  2325                      2330                      2335  
 Thr Val Thr Ala Gly Ala Val Thr Ala Ala Ser Gly Gly Val Thr Ala  
                                  2340                      2345                      2350  
 Thr Thr Gly Thr Val Thr Met Ala Gly Ala Val Ile Ala Pro Ser Thr  
                                  2355                      2360                      2365  
 Lys Cys Lys Gln Arg Ala Ser Ala Asn Glu Asn Ser Arg Phe His Pro  
                                  2370                      2375                      2380  
 Gly Ser Met Pro Val Ile Asp Asp Arg Pro Ala Asp Ala Gly Ser Gly  
 2385                      2390                      2395                      2400  
 Ala Gly Leu Arg Val Asn Thr Ser Glu Gly Val Val Leu Leu Ser Tyr  
                                  2405                      2410                      2415  
 Ser Gly Gln Lys Thr Glu Gly Pro Gln Arg Ile Ser Ala Lys Ile Ser  
                                  2420                      2425                      2430  
 Gln Ile Pro Pro Ala Ser Ala Met Asp Ile Glu Phe Gln Gln Ser Val  
                                  2435                      2440                      2445  
 Ser Lys Ser Gln Val Lys Pro Asp Ser Val Thr Ala Ser Gln Pro Pro  
                                  2450                      2455                      2460  
 Ser Lys Gly Pro Gln Ala Pro Ala Gly Tyr Ala Asn Val Ala Thr His  
 2465                      2470                      2475                      2480  
 Ser Thr Leu Val Leu Thr Ala Gln Thr Tyr Asn Ala Ser Pro Val Ile  
                                  2485                      2490                      2495  
 Ser Ser Val Lys Ala Asp Arg Pro Ser Leu Glu Lys Pro Glu Pro Ile  
                                  2500                      2505                      2510  
 His Leu Ser Val Ser Thr Pro Val Thr Gln Gly Gly Thr Val Lys Val  
                                  2515                      2520                      2525  
 Leu Thr Gln Gly Ile Asn Thr Pro Pro Val Leu Val His Asn Gln Leu  
                                  2530                      2535                      2540  
 Val Leu Thr Pro Ser Ile Val Thr Thr Asn Lys Lys Leu Ala Asp Pro  
 2545                      2550                      2555                      2560  
 Val Thr Leu Lys Ile Glu Thr Lys Val Leu Gln Pro Ala Asn Leu Gly  
                                  2565                      2570                      2575  
 Ser Thr Leu Thr Pro His His Pro Pro Ala Leu Pro Ser Lys Leu Pro  
                                  2580                      2585                      2590  
 Thr Glu Val Asn His Val Pro Ser Gly Pro Ser Ile Pro Ala Asp Arg  
                                  2595                      2600                      2605  
 Thr Val Ser His Leu Ala Ala Ala Lys Leu Asp Ala His Ser Pro Arg  
                                  2610                      2615                      2620  
 Pro Ser Gly Pro Gly Pro Ser Ser Phe Pro Arg Ala Ser His Pro Ser  
 2625                      2630                      2635                      2640  
 Ser Thr Ala Ser Thr Ala Leu Ser Thr Asn Ala Thr Val Met Leu Ala  
                                  2645                      2650                      2655  
 Ala Gly Ile Pro Val Pro Gln Phe Ile Ser Ser Ile His Pro Glu Gln



2660	2665	2670
Ser Val Ile Met Pro Pro His	Ser Ile Thr Gln Thr Val Ser Leu Ser	
2675	2680	2685
His Leu Ser Gln Gly Glu Val Arg Met Asn Thr Pro Thr Leu Pro Ser		
2690	2695	2700
Ile Thr Tyr Ser Ile Arg Pro Glu Ala Leu His Ser Pro Arg Ala Pro		
2705	2710	2715
Leu Gln Pro Gln Gln Ile Glu Val Arg Ala Pro Gln Arg Ala Ser Thr		2720
2725	2730	2735
Pro Gln Pro Ala Pro Ala Gly Val Pro Ala Leu Ala Ser Gln His Pro		
2740	2745	2750
Pro Glu Glu Glu Val His Tyr His Leu Pro Val Ala Arg Ala Thr Ala		
2755	2760	2765
Pro Val Gln Ser Glu Val Leu Val Met Gln Ser Glu Tyr Arg Leu His		
2770	2775	2780
Pro Tyr Thr Val Pro Arg Asp Val Arg Ile Met Val His Pro His Val		
2785	2790	2795
Thr Ala Val Ser Glu Gln Pro Arg Ala Ala Asp Gly Val Val Lys Val		2800
2805	2810	2815
Pro Pro Ala Ser Lys Ala Pro Gln Gln Pro Gly Lys Glu Ala Ala Lys		
2820	2825	2830
Thr Pro Asp Ala Lys Ala Ala Pro Thr Pro Thr Pro Ala Pro Val Pro		
2835	2840	2845
Val Pro Val Pro Leu Pro Ala Pro Ala Pro Ala Pro His Gly Glu Ala		
2850	2855	2860
Arg Ile Leu Thr Val Thr Pro Ser Asn Gln Leu Gln Gly Leu Pro Leu		
2865	2870	2875
Thr Pro Pro Val Val Val Thr His Gly Val Gln Ile Val His Ser Ser		
2885	2890	2895
Gly Glu Leu Phe Gln Glu Tyr Arg Tyr Gly Asp Ile Arg Thr Tyr His		
2900	2905	2910
Pro Pro Ala Gln Leu Thr His Thr Gln Phe Pro Ala Ala Ser Ser Val		
2915	2920	2925
Gly Leu Pro Ser Arg Thr Lys Thr Ala Ala Gln Gly Pro Pro Pro Glu		
2930	2935	2940
Gly Glu Pro Leu Gln Pro Pro Gln Pro Val Gln Ser Thr Gln Pro Ala		
2945	2950	2955
Gln Pro Ala Pro Pro Cys Pro Pro Ser Gln Leu Gly Gln Pro Gly Gln		2960
2965	2970	2975
Pro Pro Ser Ser Lys Met Pro Gln Val Ser Gln Glu Ala Lys Gly Thr		
2980	2985	2990
Gln Thr Gly Val Glu Gln Pro Arg Leu Pro Ala Gly Pro Ala Asn Arg		
2995	3000	3005
Pro Pro Glu Pro His Thr Gln Val Gln Arg Ala Gln Ala Glu Thr Gly		
3010	3015	3020
Pro Thr Ser Phe Pro Ser Pro Val Ser Val Ser Met Lys Pro Asp Leu		
3025	3030	3035
Pro Val Ser Leu Pro Thr Gln Thr Ala Pro Lys Gln Pro Leu Phe Val		3040
3045	3050	3055
Pro Thr Thr Ser Gly Pro Ser Thr Pro Pro Gly Leu Val Leu Pro His		
3060	3065	3070
Thr Glu Phe Gln Pro Ala Pro Lys Gln Asp Ser Ser Pro His Leu Thr		
3075	3080	3085
Ser Gln Arg Pro Val Asp Met Val Gln Leu Leu Lys Lys Tyr Pro Ile		

3090	3095	3100
Val Trp Gln Gly Leu Leu Ala Leu Lys Asn Asp Thr Ala Ala Val Gln		
3105	3110	3115
Leu His Phe Val Ser Gly Asn Asn Val Leu Ala His Arg Ser Leu Pro		3120
	3125	3130
Leu Ser Glu Gly Gly Pro Pro Leu Arg Ile Ala Gln Arg Met Arg Leu		3135
	3140	3145
Glu Ala Thr Gln Leu Glu Gly Val Ala Arg Arg Met Thr Leu Ala Ser		3150
	3155	3160
Ala Ser Val Glu Thr Asp Tyr Cys Leu Leu Leu Ala Leu Pro Cys Gly		3165
	3170	3175
Arg Asp Gln Glu Asp Val Val Ser Gln Thr Glu Ser Leu Lys Ala Ala		3180
3185	3190	3195
Phe Ile Thr Tyr Leu Gln Ala Lys Gln Ala Ala Gly Ile Ile Asn Val		3200
	3205	3210
Pro Asn Pro Gly Ser Asn Gln Pro Ala Tyr Val Leu Gln Ile Phe Pro		3215
	3220	3225
Pro Cys Glu Phe Ser Glu Ser His Leu Ser Arg Leu Ala Pro Asp Leu		3230
	3235	3240
Leu Ala Ser Ile Ser Asn Ile Ser Pro His Leu Met Ile Val Ile Ala		3245
	3250	3255
Ser Val		3260
3265		

&lt;210&gt; 4511

&lt;211&gt; 1375

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4511

gctggtcgga ccaggtctct tccatcact attgaaatgc taaaagttcc agacgatgaa  
60  
gaagaagagg agcaaactg tccatccaca ttcagtgaag aaatgacacc tacctcagtc  
120  
attcctaaat taccacagtg tctacgggag gaagaagaga aggagagcga ctctgattca  
180  
gaaggtccca ttcagtaccg agatgaagaa gatgaagatg aaagctatca gattgcactc  
240  
gccacaag tgaagaggaa agacacactg gcaatgaagt tgaaccacag acccagtga  
300  
ccagagttga acctgaattc ttggccttgt aaaagcaagg aggagtggaa tgaaatacgg  
360  
caccagattg gaaacacact gatccggcga ctgagtcaaa gaccaacacc agaagaacta  
420  
gaacaacgca atatattgca acctaaaaat gaagctgac gtcaggcaga aaaacgagaa  
480  
attaaacgtc ggctcactag aaagctcagt caaaggccaa ctgtcgctga actccttgcc  
540  
aggaagattc tgaggtttta tgaatatgta gaggtaacag atgctcaaga ttatgaccgg  
600  
cgagccgaca aaccttgac caaactgacc cctgctgaca aggctgccat aagaaaagaa  
660  
ttaaatgaat ttaaaagctc cgagatggag gttcatgaag agagcaaaca ttttacacgc  
720

taccatcgtc catgatgcc aaggttgaga gaggaatcaa catggctgct ttgctgcttc  
 780  
 cttctccaaa gtgacatatg gagggaaactt tagcacttcc cagcacagcc agaattgcat  
 840  
 cctctgggat cttctgaggt ggacagcact ttgaatgtag catttcactg gaacagagtc  
 900  
 ttatgtgctg caccgggggc aaaacaacac tttgtcagtg cttttgaacc tttcaatatt  
 960  
 gtagcatgct tgaggagttt ttccttact ggccacaaa gttctgaacc acttgcaggt  
 1020  
 tccaggtttt actggctgca ccacaccct tcccctagat gactgcctgt gcagagacac  
 1080  
 agtttgcacc attagcctta cctgccctgc cctgattgtg agacccaaat gtgtaggctc  
 1140  
 taaattccag ccatcaaacc caattcctgg tggggaaaac cttctggaga cccccaacct  
 1200  
 tctgataaaa gagtctctac ctccagggaa agccttctta ccactctggc atatcagatg  
 1260  
 aaagcattgc actgtacctc tcgtaacaca gcaatacagt cctcttgagg cactcaagcc  
 1320  
 tgagaggaag ctccagatct gacatgttct tccttttctt cacaagtcac catga  
 1375

&lt;210&gt; 4512

&lt;211&gt; 244

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4512

Ala Gly Arg Thr Arg Ser Leu Pro Ile Thr Ile Glu Met Leu Lys Val  
 1 5 10 15  
 Pro Asp Asp Glu Glu Glu Glu Gln Thr Cys Pro Ser Thr Phe Ser  
 20 25 30  
 Glu Glu Met Thr Pro Thr Ser Val Ile Pro Lys Leu Pro Gln Cys Leu  
 35 40 45  
 Arg Glu Glu Glu Glu Lys Glu Ser Asp Ser Asp Ser Glu Gly Pro Ile  
 50 55 60  
 Gln Tyr Arg Asp Glu Glu Asp Glu Asp Glu Ser Tyr Gln Ser Ala Leu  
 65 70 75 80  
 Ala Asn Lys Val Lys Arg Lys Asp Thr Leu Ala Met Lys Leu Asn His  
 85 90 95  
 Arg Pro Ser Glu Pro Glu Leu Asn Leu Asn Ser Trp Pro Cys Lys Ser  
 100 105 110  
 Lys Glu Glu Trp Asn Glu Ile Arg His Gln Ile Gly Asn Thr Leu Ile  
 115 120 125  
 Arg Arg Leu Ser Gln Arg Pro Thr Pro Glu Glu Leu Glu Gln Arg Asn  
 130 135 140  
 Ile Leu Gln Pro Lys Asn Glu Ala Asp Arg Gln Ala Glu Lys Arg Glu  
 145 150 155 160  
 Ile Lys Arg Arg Leu Thr Arg Lys Leu Ser Gln Arg Pro Thr Val Ala  
 165 170 175  
 Glu Leu Leu Ala Arg Lys Ile Leu Arg Phe Asn Glu Tyr Val Glu Val  
 180 185 190  
 Thr Asp Ala Gln Asp Tyr Asp Arg Arg Ala Asp Lys Pro Trp Thr Lys

<400> 4514															
Met	Val	Thr	Arg	Leu	Tyr	Asp	Gly	Met	Arg	Arg	Val	Asp	Leu	Thr	Gly
1				5					10					15	
Lys	Ala	Lys	Gly	Pro	Ser	Glu	Asn	Val	Ser	Gln	Glu	Gln	Phe	Thr	Ala
			20					25					30		
Ser	Met	Ser	His	Leu	Leu	Lys	Gly	Asn	Ser	Glu	Glu	Lys	Ser	Leu	Met
		35					40					45			
Ile	Met	Lys	Met	Ile	Ser	Ala	Thr	Glu	Gly	Pro	Val	Lys	Ala	Arg	Glu
	50					55					60				
Val	Gln	Lys	Phe	Thr	Glu	Asp	Leu	Val	Gly	Ser	Val	Val	His	Val	Leu
65					70					75				80	
Ser	His	Arg	Gln	Glu	Leu	Arg	Gly	Trp	Thr	Gly	Lys	Glu	Ala	Pro	Gly
				85					90					95	
Pro	Asn	Pro	Arg	Val	Gln	Val	Leu	Thr	Ala	Gln	Leu	Leu	Ser	Asp	Met

	100		105		110				
Lys	Leu	Gln	Gly	Lys	Cys	Ala	Trp	Thr	Arg
	115		120						

<210> 4515  
 <211> 3207  
 <212> DNA  
 <213> Homo sapiens

<400> 4515  
 ncaaacaacc actgggagggc actgtttccc ccccatcccg ccctgggcag ggcacgtccc  
 60  
 actcccccg cgcggttgct gggaaccggg aggcgcggcg ggcggagcgc ggagggcgcg  
 120  
 tcggaacctg gccggggccc tccaccgcgc ccgtgggtccc ggtgggtgcg ccccgtagcg  
 180  
 agcgacggcg acaactttgc gatggagttt gtgcggggcg tgtggctggg cctggcgctg  
 240  
 gcgctggggc cggggtccgc gggggggcac cctcagcgt gcggcgctct ggcgcgcctc  
 300  
 gggggctccg tgcgcctggg cgccctctg ccccgcgcg ctctcgccc cgcccgcgcc  
 360  
 cgcgccgccc tggcccgggc cgccctggcg ccgcggctgc cgcacaacct gagcttggag  
 420  
 ctggtggtcg ccgcgcccc cgcccgcgac ccgcctcgc tgaccgcgg cctgtgccag  
 480  
 gcgctggtgc ctccgggcgt ggcgggccctg ctgcctttc ccgaggctcg gcccgagctg  
 540  
 ctgcagctgc acttctggc ggcgggccacc gagaccccc tgctcagcct gctgcggcgg  
 600  
 gaggcgcgc cgccctcgg agccccgaac ccattccacc tgcagctgca ctggggccagc  
 660  
 cccctggaga cgctgctgga tgtgctggtg gcggtgctgc aggcgcacgc ctgggaagac  
 720  
 gtcggcctgg cctgtgccg cactcaggac ccggcgggcc tgggtggcct ctggacaagc  
 780  
 cgggctggcc ggccccaca gctggtcctg gacctaaagg gcggggacac gggagatgca  
 840  
 ggactgcggg cagcctggc ccgatggcg gcgccagtgg ggggtgaagc accggtaccc  
 900  
 gcggcggtcc tctcggctg tgacatcgcc cgtgcccgtc ggtgctgga ggccgtacct  
 960  
 cccggcccc actggctgtt ggggacacca ctgccccca aggccctgcc caccgcgggg  
 1020  
 ctgccaccag ggctgctggc gctgggcgag gtggcacgac ccccgctgga ggccgccatc  
 1080  
 catgacattg tgcaactggt ggcccggcg ctgggcagtg cgcccagggt gcagccgaag  
 1140  
 cgagccctcc tccccgccc ggtcaactgc ggggacctgc agccggccgg gcccgagtcc  
 1200  
 ccggggcgct tcttggcac gttctggcc aacacgtcct tccagggcgg cacgggcccc  
 1260  
 gtgtgggtga caggcagctc ccaggtacac atgtctcggc actttaagggt gtggagcctt  
 1320

cgccgggacc cacggggcgc cccggcctgg gccacggtgg gcagctggcg gtacggccag  
1380  
ctggacttgg aaccgggagg tgcctctgca tggcccccgc ccccgaggg tgcccaggtc  
1440  
cggcccaagc tgcgtgtggt aacgctgttg gaacacccat ttgtgtttgc cegtgateca  
1500  
gacgaagacg ggcagtggcc agcagggcag ctgtgcctgg accccggcac caacgactcg  
1560  
gccaccctgg acgcactgtt cgcgcgctg gccaacggct cagcgccccg tgccctgcgc  
1620  
aagtgtctgt acggctactg cattgacctg ctggagcggc tggcggagga cagcccttc  
1680  
gacttcgagc tgtacctcgt ggggtgacggc aagtacggcg ccctgcggga cggccgctgg  
1740  
accggcctgg tcggggacct gctggccggc cgggcccaca tggcggtcac cagcttcagt  
1800  
atcaactccg cccgctcaca ggtggtggac ttcaccagcc ccttcttctc caccagcctg  
1860  
ggcatcatgg tcggggcacg ggacacggcc tcacccatcg gtgcctttat gtggcccctg  
1920  
cactgggtcca cgtggctggg cgtctttgcy gccctgcacc tcaccgcgtc cttcctcacc  
1980  
gtgtacgagt ggcgtagccc ctacggcctc acgccacgtg gccgcaaccg cagcaccgtc  
2040  
ttctcctact cctcagccct caacctgtgc tacgccatcc tcttcagacg caccgtgtcc  
2100  
agcaagacgc ccaagtggcc cacggggcgc ctgctcatga acctctgggc catcttctgc  
2160  
ctgctggtgc tgtccagcta cacggccaac ctggctgccg tcatggtcgg ggacaagacc  
2220  
ttcgaggagc tgtcggggat ccacgacccc aagctgcacc acccggcgca gggcttcgc  
2280  
ttcggcaccg tgtgggagag cagcgccgag gcgtacatca agaagagctt ccccgacatg  
2340  
cacgcacaca tgcggcgcca cagcgcgccc accacgcccc gcggcgctgc catgctcacg  
2400  
agcgaccccc ccaagctcaa cgccttcata atggacaagt cgtccttgga ctacgaggtc  
2460  
tccatcgacg ccgactgcaa actgtgacc gtgggaaagc ccttcgccat tgagggctat  
2520  
gggatcggac tgccccagaa ctgcgcgtc acctccaacc tgtccgagtt catcagccgc  
2580  
tacaagtcct cgggttcata cgacctgctc cagacaagt ggtacaagat ggtgccttgc  
2640  
ggcaagcggg tctttgcggt tacagagacc ctgcagatga gcatctacca cttcgcgggc  
2700  
ctcttcgtgt tgctgtgcct gggcctgggc agcgtctctc tcagctcgct gggcgagcac  
2760  
gccttcttcc gcctggcgct gccgcgcatc cgcaagggga gcaggctgca gtactggctg  
2820  
cacaccagcc agaaaatcca ccgcgccctc aacacggagc caccagaggg gtcgaaggag  
2880  
gagacggcag aggcggagcc caggtaaagt gtggtcgggg cggaccacga tgcaggacca  
2940

cccagaccca ccacccacc agctcgcccc gaagccggcc gcggggtgca ggagggtccc  
 3000  
 ggagggtcccc cgccaccccc cggacgtgca caccgtggct ccttggttgt gctgtgcggc  
 3060  
 catcctctgc cgtcagcggc ctctgcagag gccagggcg cgagacggct gccccggcgg  
 3120  
 aactgacca ggccggttcc gtccccagcg gcccgagggt ggagcagcag cagcagcagc  
 3180  
 aggaccagcc aacggctccg gagggt  
 3207

<210> 4516

<211> 901

<212> PRT

<213> Homo sapiens

<400> 4516

Met	Glu	Phe	Val	Arg	Ala	Leu	Trp	Leu	Gly	Leu	Ala	Leu	Ala	Leu	Gly
1			5					10				15			
Pro	Gly	Ser	Ala	Gly	Gly	His	Pro	Gln	Pro	Cys	Gly	Val	Leu	Ala	Arg
		20					25				30				
Leu	Gly	Gly	Ser	Val	Arg	Leu	Gly	Ala	Leu	Leu	Pro	Arg	Ala	Pro	Leu
	35					40				45					
Ala	Arg	Ala	Arg	Ala	Arg	Ala	Ala	Leu	Ala	Arg	Ala	Ala	Leu	Ala	Pro
	50				55				60						
Arg	Leu	Pro	His	Asn	Leu	Ser	Leu	Glu	Leu	Val	Val	Ala	Ala	Pro	Pro
65				70				75					80		
Ala	Arg	Asp	Pro	Ala	Ser	Leu	Thr	Arg	Gly	Leu	Cys	Gln	Ala	Leu	Val
		85						90			95				
Pro	Pro	Gly	Val	Ala	Ala	Leu	Leu	Ala	Phe	Pro	Glu	Ala	Arg	Pro	Glu
	100						105				110				
Leu	Leu	Gln	Leu	His	Phe	Leu	Ala	Ala	Ala	Thr	Glu	Thr	Pro	Val	Leu
	115					120					125				
Ser	Leu	Leu	Arg	Arg	Glu	Ala	Arg	Ala	Pro	Leu	Gly	Ala	Pro	Asn	Pro
	130				135					140					
Phe	His	Leu	Gln	Leu	His	Trp	Ala	Ser	Pro	Leu	Glu	Thr	Leu	Leu	Asp
145				150				155					160		
Val	Leu	Val	Ala	Val	Leu	Gln	Ala	His	Ala	Trp	Glu	Asp	Val	Gly	Leu
		165				170					175				
Ala	Leu	Cys	Arg	Thr	Gln	Asp	Pro	Gly	Gly	Leu	Val	Ala	Leu	Trp	Thr
	180					185					190				
Ser	Arg	Ala	Gly	Arg	Pro	Pro	Gln	Leu	Val	Leu	Asp	Leu	Ser	Arg	Arg
	195				200						205				
Asp	Thr	Gly	Asp	Ala	Gly	Leu	Arg	Ala	Arg	Leu	Ala	Pro	Met	Ala	Ala
	210				215					220					
Pro	Val	Gly	Gly	Glu	Ala	Pro	Val	Pro	Ala	Ala	Val	Leu	Leu	Gly	Cys
225				230				235					240		
Asp	Ile	Ala	Arg	Ala	Arg	Arg	Val	Leu	Glu	Ala	Val	Pro	Pro	Gly	Pro
		245						250				255			
His	Trp	Leu	Leu	Gly	Thr	Pro	Leu	Pro	Pro	Lys	Ala	Leu	Pro	Thr	Ala
	260						265					270			
Gly	Leu	Pro	Pro	Gly	Leu	Leu	Ala	Leu	Gly	Glu	Val	Ala	Arg	Pro	Pro
	275					280					285				
Leu	Glu	Ala	Ala	Ile	His	Asp	Ile	Val	Gln	Leu	Val	Ala	Arg	Ala	Leu

290 295 300  
 Gly Ser Ala Ala Gln Val Gln Pro Lys Arg Ala Leu Leu Pro Ala Pro  
 305 310 315 320  
 Val Asn Cys Gly Asp Leu Gln Pro Ala Gly Pro Glu Ser Pro Gly Arg  
 325 330 335  
 Phe Leu Ala Arg Phe Leu Ala Asn Thr Ser Phe Gln Gly Arg Thr Gly  
 340 345 350  
 Pro Val Trp Val Thr Gly Ser Ser Gln Val His Met Ser Arg His Phe  
 355 360 365  
 Lys Val Trp Ser Leu Arg Arg Asp Pro Arg Gly Ala Pro Ala Trp Ala  
 370 375 380  
 Thr Val Gly Ser Trp Arg Tyr Gly Gln Leu Asp Leu Glu Pro Gly Gly  
 385 390 395 400  
 Ala Ser Ala Trp Pro Pro Pro Gln Gly Ala Gln Val Arg Pro Lys  
 405 410 415  
 Leu Arg Val Val Thr Leu Leu Glu His Pro Phe Val Phe Ala Arg Asp  
 420 425 430  
 Pro Asp Glu Asp Gly Gln Cys Pro Ala Gly Gln Leu Cys Leu Asp Pro  
 435 440 445  
 Gly Thr Asn Asp Ser Ala Thr Leu Asp Ala Leu Phe Ala Ala Leu Ala  
 450 455 460  
 Asn Gly Ser Ala Pro Arg Ala Leu Arg Lys Cys Cys Tyr Gly Tyr Cys  
 465 470 475 480  
 Ile Asp Leu Leu Glu Arg Leu Ala Glu Asp Thr Pro Phe Asp Phe Glu  
 485 490 495  
 Leu Tyr Leu Val Gly Asp Gly Lys Tyr Gly Ala Leu Arg Asp Gly Arg  
 500 505 510  
 Trp Thr Gly Leu Val Gly Asp Leu Leu Ala Gly Arg Ala His Met Ala  
 515 520 525  
 Val Thr Ser Phe Ser Ile Asn Ser Ala Arg Ser Gln Val Val Asp Phe  
 530 535 540  
 Thr Ser Pro Phe Phe Ser Thr Ser Leu Gly Ile Met Val Arg Ala Arg  
 545 550 555 560  
 Asp Thr Ala Ser Pro Ile Gly Ala Phe Met Trp Pro Leu His Trp Ser  
 565 570 575  
 Thr Trp Leu Gly Val Phe Ala Ala Leu His Leu Thr Ala Leu Phe Leu  
 580 585 590  
 Thr Val Tyr Glu Trp Arg Ser Pro Tyr Gly Leu Thr Pro Arg Gly Arg  
 595 600 605  
 Asn Arg Ser Thr Val Phe Ser Tyr Ser Ser Ala Leu Asn Leu Cys Tyr  
 610 615 620  
 Ala Ile Leu Phe Arg Arg Thr Val Ser Ser Lys Thr Pro Lys Cys Pro  
 625 630 635 640  
 Thr Gly Arg Leu Leu Met Asn Leu Trp Ala Ile Phe Cys Leu Leu Val  
 645 650 655  
 Leu Ser Ser Tyr Thr Ala Asn Leu Ala Val Met Val Gly Asp Lys  
 660 665 670  
 Thr Phe Glu Glu Leu Ser Gly Ile His Asp Pro Lys Leu His His Pro  
 675 680 685  
 Ala Gln Gly Phe Arg Phe Gly Thr Val Trp Glu Ser Ser Ala Glu Ala  
 690 695 700  
 Tyr Ile Lys Lys Ser Phe Pro Asp Met His Ala His Met Arg Arg His  
 705 710 715 720  
 Ser Ala Pro Thr Thr Pro Arg Gly Val Ala Met Leu Thr Ser Asp Pro



725 730 735  
 Pro Lys Leu Asn Ala Phe Ile Met Asp Lys Ser Leu Leu Asp Tyr Glu  
 740 745 750  
 Val Ser Ile Asp Ala Asp Cys Lys Leu Leu Thr Val Gly Lys Pro Phe  
 755 760 765  
 Ala Ile Glu Gly Tyr Gly Ile Gly Leu Pro Gln Asn Ser Pro Leu Thr  
 770 775 780  
 Ser Asn Leu Ser Glu Phe Ile Ser Arg Tyr Lys Ser Ser Gly Phe Ile  
 785 790 795 800  
 Asp Leu Leu His Asp Lys Trp Tyr Lys Met Val Pro Cys Gly Lys Arg  
 805 810 815  
 Val Phe Ala Val Thr Glu Thr Leu Gln Met Ser Ile Tyr His Phe Ala  
 820 825 830  
 Gly Leu Phe Val Leu Leu Cys Leu Gly Leu Gly Ser Ala Leu Leu Ser  
 835 840 845  
 Ser Leu Gly Glu His Ala Phe Phe Arg Leu Ala Leu Pro Arg Ile Arg  
 850 855 860  
 Lys Gly Ser Arg Leu Gln Tyr Trp Leu His Thr Ser Gln Lys Ile His  
 865 870 875 880  
 Arg Ala Leu Asn Thr Glu Pro Pro Glu Gly Ser Lys Glu Glu Thr Ala  
 885 890 895  
 Glu Ala Glu Pro Arg  
 900

&lt;210&gt; 4517

&lt;211&gt; 2275

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4517

actagttcta gatcgcgagc ggagctgctg actgcattct tctctgccac tgcggatgct  
 60  
 gcctccccgt ttccagcctg taagcccggt gtggtggtga gtcacctgct gctgcaggag  
 120  
 gaggagcccc tggctggggg gaagccgggt gcgagcgtg gcagcctgga ggccgtgagg  
 180  
 ctggggccct cgtcaggcct cctagtggac tggctggaaa tgctggaccc cgaggtggtc  
 240  
 agcagctgcc ccgacctgca gctcaggctg ctcttctccc ggaggaaggg caaaggtcag  
 300  
 gccaggtgc cctcgttccg tccctacctc ctgacctct tcacgcatca gtccagctgg  
 360  
 cccacactgc accagtgcac ccgagtcctg ctgggcaaga gccgggaaca gaggttcgac  
 420  
 ccctctgcct ctctggactt cctctggggc tgcattcatg ttcctcgcat ctggcagggg  
 480  
 cgggaccagc gcaccccgca gaagcggcgg gaggagctgg tgctgcgggt ccagggcccg  
 540  
 gagtcatca gctggtgga gctgacccg gccgaggcgg agacgcggag ccaggacggg  
 600  
 gacacagccg cctgcagcct catccaggcc cggctgcccc tgctgctcag ctgctgctgt  
 660  
 ggggacgatg agagtgtcag gaaggtgacg gagcacctgt caggctgcat ccagcagtgg  
 720

ggagacagcg tgctgggcag gcgctgccga gaccttctcc tgcagctcta cctacagcgg  
780  
ccggagctgc ggggtgcccgt gcctgaggtc ctactgcaca gcgaaggggc tgccagcagc  
840  
agcgtctgca agctggacgg actcatccac cgcttcatca cgctccttgc ggacaccagc  
900  
gactccccgg cgcttgagaa ccgaggggag gatgccagca tggcctgccc gaagctggcg  
960  
gtggcgacc cgctgctgct gctcaggcac ctgccatga tcgcggcgct cctgcacggc  
1020  
cgcacccacc tcaacttcca ggagttccgg cagcagaacc acctgagctg cttcctgcac  
1080  
gtgctgggccc tgctggagct gctgcagccg cacgtgttcc gcagcgagca ccagggggcg  
1140  
ctgtgggact gccttctgtc cttcatccgc ctgctgctga attacaggaa gtctctccgc  
1200  
catctggctg ccttcatcaa caagtttgtg cagttcatcc ataagtacat tacctacaat  
1260  
gccccagcag ccattctcctt cctgcagaag cagcccgacc cgctccacga cctgtccttc  
1320  
gacaacagtg acctggtgat gctgaaatcc ctccttgagc ggctcagcct gccagcagg  
1380  
gacgacagga ccgaccgagg cctggacgaa gagggcgagg aggagagctc agccggctcc  
1440  
ttgcccctgg tcagcgtctc cctgttcacc cctctgaccg cggccgagat ggccccctac  
1500  
atgaaacggc tttccccggg ccaaaccggtg gagggtgagt caggccctgc ttcaccacg  
1560  
ccagatctgc tggaggttct gactgacata gacgagatgt cccggcgag acccgagatc  
1620  
ctgagcttct tctcgaccaa cctgcagcgg ctgatgagct cggccgagga gtgttgccgc  
1680  
aacctcgctt tcagcctggc cctgcgctcc atgcagaaca gccccagcat tgcagccgct  
1740  
ttcctgccc cgttcatgta ctgcctgggc agccaggact ttgaggtggt gcagacggcc  
1800  
ctccggaacc tgcttgagta cgctctcctg tgccaagagc acgaggctgt gctgctccac  
1860  
cgggccttcc tggtagggcat gtacggccag atggacccca gcgcgcagat ctccgaggcc  
1920  
ctgaggatcc tgcatatgga ggccgtgatg tgagcctgtg gcagccgacc cccctccaag  
1980  
ccccggccc tcccgcccc ggggacctc gaggcaaagc ccaggaagcg tgggcgttgc  
2040  
tggtctgtcc gaggaggtga gggcgccgag ccctgaggcc aggcaggccc aggagcaata  
2100  
ctccgagccc tgggggtggc ccgggcgggc cgctggcatc aggggcccgc cagcaagccc  
2160  
tcattcacct tctgggccac agccctgccg cggagcggcg gatcccccg ggcattggcct  
2220  
gggctggttt tgaatgaaac gacctgaact gtcaaaaaaa aaaaaaaaaa aaaaa  
2275

&lt;210&gt; 4518

&lt;211&gt; 650

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4518

```

Thr Ser Ser Arg Ser Arg Ala Glu Leu Leu Thr Ala Phe Phe Ser Ala
 1           5           10           15
Thr Ala Asp Ala Ala Ser Pro Phe Pro Ala Cys Lys Pro Val Val Val
      20           25           30
Val Ser Ser Leu Leu Leu Gln Glu Glu Glu Pro Leu Ala Gly Gly Lys
      35           40           45
Pro Gly Ala Asp Gly Gly Ser Leu Glu Ala Val Arg Leu Gly Pro Ser
 50           55           60
Ser Gly Leu Leu Val Asp Trp Leu Glu Met Leu Asp Pro Glu Val Val
65           70           75           80
Ser Ser Cys Pro Asp Leu Gln Leu Arg Leu Leu Phe Ser Arg Arg Lys
      85           90           95
Gly Lys Gly Gln Ala Gln Val Pro Ser Phe Arg Pro Tyr Leu Leu Thr
      100          105          110
Leu Phe Thr His Gln Ser Ser Trp Pro Thr Leu His Gln Cys Ile Arg
      115          120          125
Val Leu Leu Gly Lys Ser Arg Glu Gln Arg Phe Asp Pro Ser Ala Ser
      130          135          140
Leu Asp Phe Leu Trp Ala Cys Ile His Val Pro Arg Ile Trp Gln Gly
      145          150          155          160
Arg Asp Gln Arg Thr Pro Gln Lys Arg Arg Glu Glu Leu Val Leu Arg
      165          170          175
Val Gln Gly Pro Glu Leu Ile Ser Leu Val Glu Leu Ile Leu Ala Glu
      180          185          190
Ala Glu Thr Arg Ser Gln Asp Gly Asp Thr Ala Ala Cys Ser Leu Ile
      195          200          205
Gln Ala Arg Leu Pro Leu Leu Ser Cys Cys Cys Gly Asp Asp Glu
      210          215          220
Ser Val Arg Lys Val Thr Glu His Leu Ser Gly Cys Ile Gln Gln Trp
      225          230          235          240
Gly Asp Ser Val Leu Gly Arg Arg Cys Arg Asp Leu Leu Leu Gln Leu
      245          250          255
Tyr Leu Gln Arg Pro Glu Leu Arg Val Pro Val Pro Glu Val Leu Leu
      260          265          270
His Ser Glu Gly Ala Ala Ser Ser Ser Val Cys Lys Leu Asp Gly Leu
      275          280          285
Ile His Arg Phe Ile Thr Leu Leu Ala Asp Thr Ser Asp Ser Arg Ala
      290          295          300
Leu Glu Asn Arg Gly Ala Asp Ala Ser Met Ala Cys Arg Lys Leu Ala
      305          310          315          320
Val Ala His Pro Leu Leu Leu Leu Arg His Leu Pro Met Ile Ala Ala
      325          330          335
Leu Leu His Gly Arg Thr His Leu Asn Phe Gln Glu Phe Arg Gln Gln
      340          345          350
Asn His Leu Ser Cys Phe Leu His Val Leu Gly Leu Leu Glu Leu Leu
      355          360          365
Gln Pro His Val Phe Arg Ser Glu His Gln Gly Ala Leu Trp Asp Cys
      370          375          380
Leu Leu Ser Phe Ile Arg Leu Leu Leu Asn Tyr Arg Lys Ser Ser Arg

```

```

385          390          395          400
His Leu Ala Ala Phe Ile Asn Lys Phe Val Gln Phe Ile His Lys Tyr
          405          410          415
Ile Thr Tyr Asn Ala Pro Ala Ala Ile Ser Phe Leu Gln Lys His Ala
          420          425          430
Asp Pro Leu His Asp Leu Ser Phe Asp Asn Ser Asp Leu Val Met Leu
          435          440          445
Lys Ser Leu Leu Ala Gly Leu Ser Leu Pro Ser Arg Asp Asp Arg Thr
          450          455          460
Asp Arg Gly Leu Asp Glu Glu Gly Glu Glu Glu Ser Ser Ala Gly Ser
          465          470          475          480
Leu Pro Leu Val Ser Val Ser Leu Phe Thr Pro Leu Thr Ala Ala Glu
          485          490          495
Met Ala Pro Tyr Met Lys Arg Leu Ser Arg Gly Gln Thr Val Glu Gly
          500          505          510
Glu Ser Gly Pro Ala Ser Pro Thr Pro Asp Leu Leu Glu Val Leu Ser
          515          520          525
Asp Ile Asp Glu Met Ser Arg Arg Arg Pro Glu Ile Leu Ser Phe Phe
          530          535          540
Ser Thr Asn Leu Gln Arg Leu Met Ser Ser Ala Glu Glu Cys Cys Arg
          545          550          555          560
Asn Leu Ala Phe Ser Leu Ala Leu Arg Ser Met Gln Asn Ser Pro Ser
          565          570          575
Ile Ala Ala Ala Phe Leu Pro Thr Phe Met Tyr Cys Leu Gly Ser Gln
          580          585          590
Asp Phe Glu Val Val Gln Thr Ala Leu Arg Asn Leu Pro Glu Tyr Ala
          595          600          605
Leu Leu Cys Gln Glu His Ala Ala Val Leu Leu His Arg Ala Phe Leu
          610          615          620
Val Gly Met Tyr Gly Gln Met Asp Pro Ser Ala Gln Ile Ser Glu Ala
          625          630          635          640
Leu Arg Ile Leu His Met Glu Ala Val Met
          645          650

```

&lt;210&gt; 4519

&lt;211&gt; 2326

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 4519

```

gacagagtgc agccttttcc tcccctaata gaaaagccat tgccctcttt tcctccccta
60
atagaaaagc cattgccctc ttttctcca cccttaagaa gacctgcac tggtggacca
120
acagacaact atccggtta cggccagggg agcccctgca gctgcacaga accagtttct
180
tatgtatctg gcggttaattg ggaaagcttc tgagaaagtc catggggccg atgtatggga
240
gatgaatgtg gtcccggagg catecaaacy agggctgtgt ggtgtgctca tgtggagggg
300
tggaactacac tgcatactaa ctgtaagcag gccgagagac ccaataacca gcagaattgt
360
ttcaaagttt gcgattggca caaagagttg tacgactgga gactgggacc ttggaatcag
420

```